The Economist

India: irascible and indispensable

America's new industrial geography

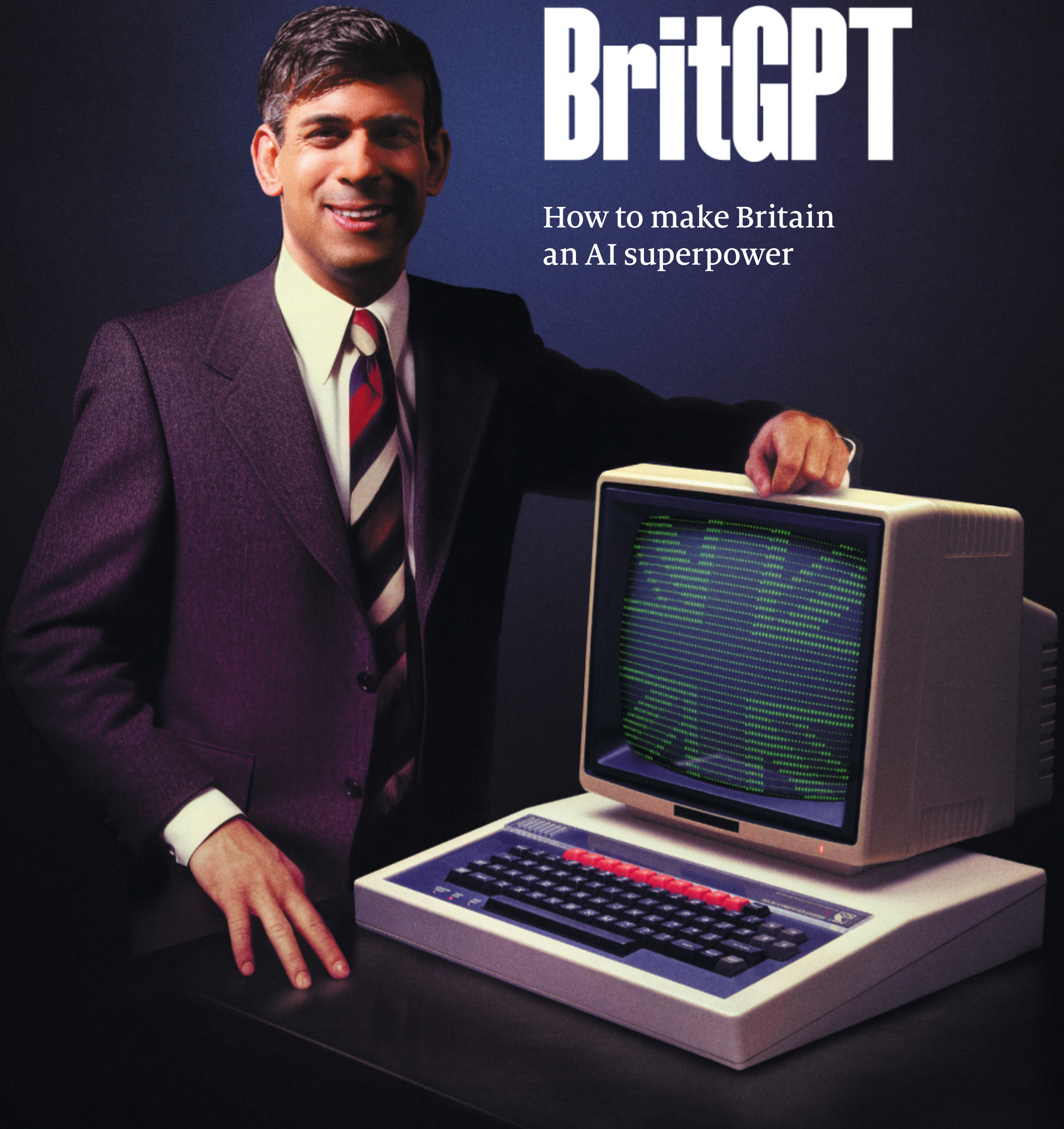
Is the housing slump over?

Undoing business in China

JUNE 17TH–23RD 2023

BritGPT

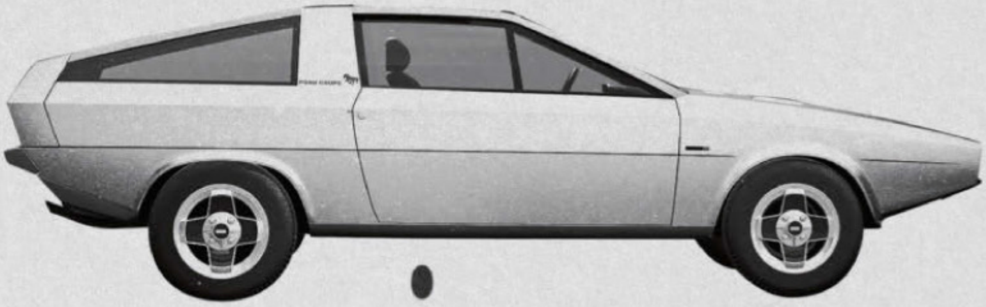
How to make Britain
an AI superpower



VISIT…

LANZAROTE
Caliente.COM

49 years in the making.



Back in the 70s,
an ambitious designer sketched out the most mesmerising car you've never seen. It was sleek. It was powerful. It was a work of art on wheels — an icon that inspired icons, such as a time-traveling car from a famous sci-fi movie and even our N Vision 74. This machine paved the way for progress, influencing our own vision of the future. But not a single ad was ever made for this car. It didn't even see the production light.

So, we are honouring this jaw-dropping machine — with the ad that should have been. Finally here, in all its glory. Anyway, if you've read up to this point, you're officially part of a select crowd that reads long copy ads in 2023. The point: the car that got away 49 years ago has arrived today.
The Pony Coupe concept.
Restored, revitalised, and ready to blow everyone away. Again.

HYUNDAI

This ad shows the Hyundai Pony Coupe concept. The image is 3D rendered.
The vehicle is not available for purchase.

Contents

On the cover

Rishi Sunak's enthusiasm is welcome. But the prime minister's plans to make Britain into an AI superpower fall short: leader, *page 9*. Without more domestic compute power, cleaner datasets and smarter regulation the country risks squandering a rare opportunity, *page 17*

India: irascible and indispensable India does not love the West. Even so, America needs it: leader, *page 10*. In a special section on India and the world, we look at the country's growing economic clout, *page 45*. An interview with Subrahmanyam Jaishankar, its foreign minister, *page 47*. The power and influence of India's diaspora, *page 55*

America's new industrial geography Joe Biden has sparked a manufacturing boom nationally, but nowhere more than in the South, *page 31*

Is the housing slump over? Why rising interest rates have not triggered property pandemonium, *page 65*

Undoing business in China The country is becoming an impossible place for foreigners to do business: leader, *page 11*, and analysis, *page 58*

→ *The digital element of your subscription means that you can search our archive, read all of our daily journalism and listen to audio versions of our stories. Visit* ***economist.com***

The world this week

6 A summary of political and business news

Leaders

9 **Artificial intelligence** BritGPT
10 **Indispensable India** America's new best friend
11 **Donald Trump indicted** Secrets and fries
11 **Business in China** The foreign crackdown
12 **Fiscal policy** Recklessly red

Letters

13 On the English language, oil prices, Pakistan, productivity, Henry Kissinger, pronouncing Erdogan

Schumpeter The 120-year-old carmaker shows the importance of knowing your limits, *page 64*

Britain

17 Britain's AI ambitions
22 Trade in body parts
23 A hot labour market
24 **Bagehot** Boris Johnson's lost legacy

Europe

25 Ukraine's counter-offensive
26 After Berlusconi
27 Germany's strategy review
28 Europe's struggling Left
30 **Charlemagne** Fixing asylum rules

United States

31 The new industrial heartland
32 ChatGPT in schools
33 The Pride backlash
34 Buses bust
34 Feral parakeets
35 Pacific strategy
36 **Lexington** Carolina in their minds

The Americas

37 Saving the Amazon
38 China and Latin America
39 Canada's wildfires

Middle East & Africa

41 Egypt's military decade
42 Lebanon's boat people
43 Israeli-Saudi links at last?
43 The Great Carbon Valley
44 Africa's rural economies

Contents continues overleaf

Asia

45 India's hefty economy
47 An interview with S. Jaishankar
49 Indo-American defence co-operation
50 **Banyan** Modi's popularity

China

51 Spy stations in Cuba
52 Influencing Taiwan
53 Officials under scrutiny
54 **Chaguan** The party's legitimacy trap

International

55 The might of the Indian diaspora

Business

58 Can the West do business in China?
60 Oracle on cloud nine
60 Intel in Magdeburg
61 **Bartleby** In praise of jargon
62 NBA v UEFA
62 The self-storage boom
63 The holiday business
64 **Schumpeter** Ford's focus

Finance & economics

65 Placid property markets
66 Xi's banking crackdown
68 **Buttonwood** The Fed's other quandary
71 AI's impact on jobs
71 Asian trade deals
72 South Korea's bourse
73 **Free exchange** Inflationary nightmares

Science & technology

74 Meet the holobionts
77 Sterilising cats

Culture

78 Cartoons in Africa
79 A history of eastern Europe
80 Cormac McCarthy
81 The genius of Irish crisps
81 A cult in New York
82 **Back Story** "The Full Monty" zips up

Economic & financial indicators

84 Statistics on 42 economies

Graphic detail

85 Can England take Test cricket's top spot?

Obituary

86 Silvio Berlusconi, Italy's great seducer

The Economist

Volume 447 Number 9351

Published since September 1843
to take part in *"a severe contest between intelligence, which presses forward, and an unworthy, timid ignorance obstructing our progress."*

Editorial offices in London and also:
Amsterdam, Beijing, Berlin, Brussels, Chicago, Dakar, Dallas, Dubai, Johannesburg, Madrid, Mexico City, Moscow, Mumbai, New Delhi, New York, Paris, San Francisco, São Paulo, Seoul, Shanghai, Singapore, Tokyo, Washington DC

Subscription service
For our full range of subscription offers, including digital only or print and digital bundled, visit:
Economist.com/offers

If you are experiencing problems when trying to subscribe, please visit our Help pages at:
www.economist.com/help
for troubleshooting advice.

To manage your account online, please visit my.economist.com where you can also access our live chat service which is available 24/7. To call us, contact our dedicated service centre on 00800 771 12711 or +44 (0)203 868 6843.

Please recycle

PEFC
PEFC/16-33-582

PEFC certified
This copy of *The Economist* is printed on paper sourced from sustainably managed forests certified by PEFC
www.pefc.org

Registered as a newspaper. © 2023 The Economist Newspaper Limited. All rights reserved. Neither this publication nor any part of it may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of The Economist Newspaper Limited. Published every week, except for a year-end double issue, by The Economist Newspaper Limited. *The Economist* is a registered trademark of The Economist Newspaper Limited. Printed by Walstead Peterborough Limited

power station.
rethink everything.®
17 96
LOMBARD ODIER
LOMBARD ODIER DARIER HENTSCH
Certified B Corporation

As residential solar energy increases, homes won't just consume energy, they'll produce and distribute it to the grid.

Electrification is giving rise to a deep, fundamental rewiring of the economy.

Where profit pools will surface in unexpected places.

History is in the making. Again.

Find out more about our Electrification Strategy at **LombardOdier.com**

Investments are subject to a variety of risks. This is a marketing communication. Please refer to the prospectus, the KIID of LO Funds SICAV and your investment advisor before making any final investment decisions. Lombard Odier (Europe) S.A. UK Branch is authorised and regulated by the Commission de Surveillance du Secteur Financier ('CSSF') in Luxembourg and is authorised in the UK by the Prudential Regulation Authority ('PRA'). Subject to regulation by the Financial Conduct Authority ('FCA') and limited regulation by the PRA. Financial Services Firm Reference Number 597896. Lombard Odier Asset Management (Europe) Limited - authorised and regulated by the FCA in the UK. ©2023 Lombard Odier

Donald Trump appeared in a court in Miami to plead not guilty to 37 criminal charges related to his mishandling of classified documents. It is the first time an American president, former or sitting, has been charged in a federal court. The indictment claims Mr Trump stored secret papers haphazardly throughout his home in Florida, such as in a shower stall. Some of the material related to the defence and weapons capabilities of America and foreign countries, including America's nuclear programmes. Before his court appearance Mr Trump vowed to remain in the presidential race, even if he is convicted. "I'll never leave," he said.

Italy held a state funeral for **Silvio Berlusconi**, who died aged 86. Italy's longest-serving prime minister was a media tycoon and unapologetic populist. He was known for a string of corruption and sex scandals, the most infamous being the "Bunga Bunga" parties at his villa, where he cavorted with (very) young scantily clad women. He was still a force in politics. His Forza Italia party forms part of Italy's coalition government.

Ukraine's counter-offensive trundled on. It claims to have retaken several villages from Russia. Russia said that one of its senior generals had been killed in the fighting. Russian missile attacks killed 12 people in Kryvyi Rih, a town in central Ukraine known for being the birthplace of Volodymyr Zelensky. Russia also attacked the Black Sea port town of Odessa. Meanwhile the governor of Russia's Kursk region accused Ukraine of firing missiles over the border.

Alexander Lukashenko, the dictator of Belarus, said his country had started to take delivery of some Russian **nuclear weapons**, the first time they have been deployed outside Russia since the fall of the Soviet Union in 1991.

Germany published its first-ever national security strategy. It said that Russia poses the "most significant threat to peace" and pointed to China as a menace for using its dominance in supply chains to wield its political clout. The document reiterated Germany's commitment to increase defence spending.

Bye-bye Boris

Boris Johnson resigned as an MP ahead of a damning report from the parliamentary Privileges Committee that found he had deliberately misled Parliament about lockdown parties held in Downing Street when he was prime minister. Mr Johnson accused the committee of being a "kangaroo court". He also took umbrage with another committee that rejected eight people from his honours list, which former prime ministers are allowed to recommend. Just two of Mr Johnson's allies said they would also quit Parliament in solidarity with him.

Scotland's former first minister, **Nicola Sturgeon**, was for once glad that Mr Johnson hogged the headlines to divert attention from her troubles. Ms Sturgeon was arrested in connection with a police investigation into the Scottish National Party's finances while she was its leader. She was later released without charge.

A 44-year-old mother of three was imprisoned in Britain for having an **abortion** after the legal limit of 24 weeks post-conception. The woman took abortion pills, which are allowed for home use up to ten weeks after conceiving (she was over 30 weeks pregnant). Calls were made to release the woman from prison in the highly unusual case.

At least 78 **migrants** died and hundreds were missing, after their boat sank off the coast of Greece. The vessel was en route to Italy from Libya. Many of those on board were from north African countries.

The UN's refugee agency said that there were 19m more refugees at the end of last year than at the same point in 2021, an increase of 21%. The total number of **refugees** was around 108m. That number is the highest ever and includes people displaced within their own country as well as refugees. Before the civil war began in Syria in 2011, the figure in the agency's annual report had been steady at around 40m. At the end of 2022, 11.6m Ukrainians remained displaced.

Nigeria's new president, Bola Tinubu, suspended the governor of the central bank, leading to hopes among investors that the country will abolish its cumbersome system of multiple fixed exchange rates. The naira, which was kept artificially inflated by the central bank, plunged against the dollar.

White rhinos have been reintroduced to the Garamba national park in Congo 17 years after the last one was killed by poachers. The park is one of Africa's oldest, but conflict and poaching have denuded it of many of its animals.

America warned that **North Korea** may be preparing to send weapons to Russia, after Kim Jong Un, the North Korean dictator, called for closer strategic ties with Russia, which he summed up as "holding hands firmly" with Vladimir Putin. America believes that North Korea sent rockets and missiles to the Wagner Group, Russia's mercenary force, last November. Meanwhile, the UN said Russia had restarted oil exports to North Korea.

The government of **Australia** introduced a bill to criminalise the public display of Nazi and Islamic State symbols, and ban trading in items bearing the designs. Laws on accessing and sharing violent extremist material online will also be toughened.

At least nine people were killed in the latest clashes between rival ethnic groups in the Indian state of **Manipur**, which borders Myanmar. The groups are fighting over government quotas for jobs, among other things. At least 80 people have died since the violence erupted in May and 40,000 have been displaced.

Trying to block Twitter

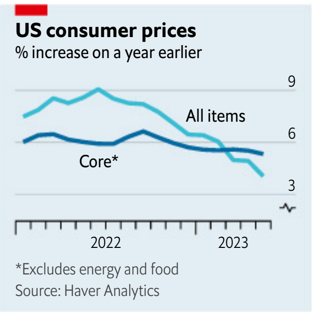
Jack Dorsey, one of the founders of Twitter, accused **India** of threatening to shut down the social-media platform across the country during the farmers' protests of 2020-21. The deputy minister for IT described Mr Dorsey's accusation as an "outright lie".

Reports that **China** planned to establish a spy station in **Cuba** provoked outrage from some politicians in Washington, who drew comparisons to the Cuban missile crisis of 1962. But the White House said China had been gathering signals intelligence from Cuba for years. The furore did not stop America's secretary of state, Antony Blinken, from moving ahead with a long-delayed visit to Beijing.

Four children, including a baby, were found after spending 40 days in the **Colombian** jungle. Their plane had crashed, killing their mother and two other adults. All four children were from the Huitoto indigenous group, and were fleeing their homes after a threat of being forcibly recruited by armed groups.

The world this week Business

The Federal Reserve decided to leave its key **interest rate** unchanged at a range of 5% to 5.25%. It was the first time that America's central bank left the rate on hold following ten consecutive increases, which started in March 2022. However, it indicated that it would probably lift the rate twice again this year.


US consumer prices
% increase on a year earlier

*Excludes energy and food
Source: Haver Analytics

The easing of inflationary pressures was a big factor behind the Fed's decision. America's overall annual **inflation** rate fell to 4% in May, the lowest it's been since March 2021. Core inflation, which strips out energy and food prices, was 5.3%: it has hardly budged since the start of the year, in part because housing-related costs are rising. Despite higher mortgage rates, house prices are steadily increasing again.

The French finance minister, Bruno Le Maire, secured a promise from 75 food producers to cut their prices. Food prices in **France** rose by 14.1% in the 12 months to May.

China's central bank took a big shift towards easing monetary policy by trimming interest rates. The economy has been losing steam since a strong rebound immediately after the lifting of covid restrictions. Retail sales and industrial production grew more slowly than economists had expected in the year to May. Unlike the rest of the world, inflation is negligible and the property market is in the doldrums.

New figures showing that wages are soaring in **Britain** probably mean that more interest-rate rises from the Bank of England are on the cards. The data caused the yields on short-term government bonds to jump to their highest levels since August 2008, higher even than the spike after the ill-fated mini-budget of Liz Truss's government last September.

A new beginning

UBS completed its takeover of **Credit Suisse**, bringing an end to the latter's 167 years of independence; for now it will operate as a subsidiary. The emergency takeover was proposed by the Swiss government in March following the collapse of market confidence in Credit Suisse after years of scandals and losses. The combined company will oversee $5trn in assets.

America's **Nasdaq** stock exchange agreed to buy **Adenza**, a provider of risk-management and regulatory software, for $10.5bn. Nasdaq is best known for the tech firms that list their shares on the exchange. It reckons the deal will boost its financial-compliance services.

In Japan the **Nikkei** stock-market index closed above the 33,000 mark for the first time since 1990. It was boosted this week in part by a surge in the share price of SoftBank, amid rumours that it might team up with the firm behind ChatGPT. The Nikkei has gained 30% this year and the Topix 20%, helped by a weaker yen that has attracted foreign investors.

Toyota faced down two proxy votes at its annual general meeting. In an unusual challenge to the management of a Japanese company, activist investors in America and Europe recommended voting against Toyoda Akio, the grandson of the carmaker's founder, as chairman. They say he has been slow in rolling out electric vehicles. Another proposal urged full disclosure on Toyota's climate policy. Both proposals were defeated.

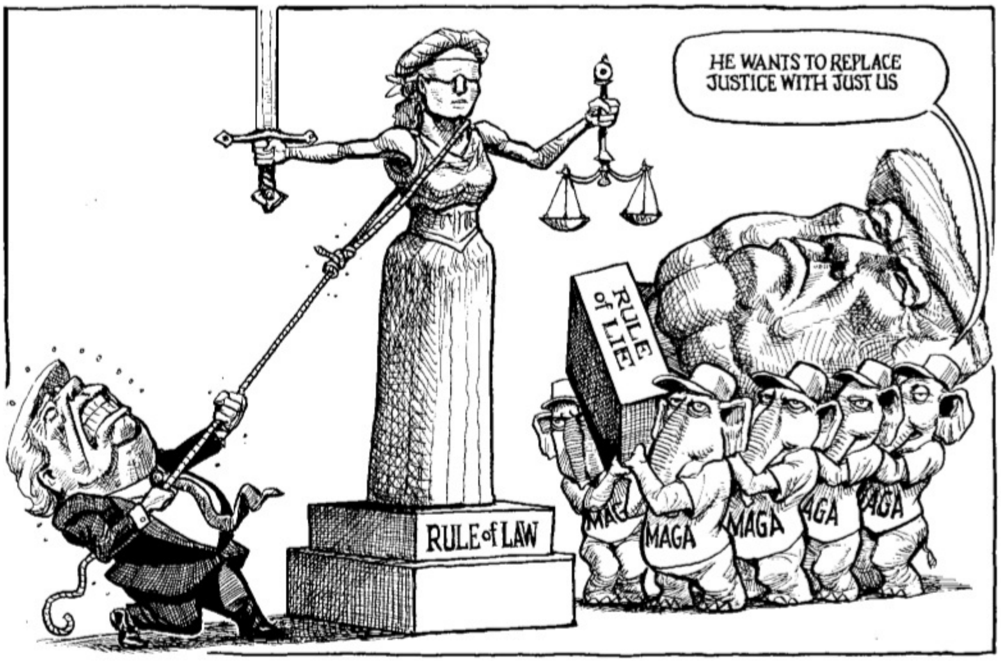
The Federal Trade Commission asked a court to stop **Microsoft** completing its $69bn takeover of **Activision Blizzard**, a video-gaming company, amid reports that the closure of the deal is imminent. The FTC has sued to stop the acquisition and legal proceedings begin in August. In April Britain's competition regulator said it would also try to block the takeover.

A jury in New Jersey awarded $25.6m to a regional manager at **Starbucks**, finding that she was sacked for being white. Shannon Phillips was fired after an incident in 2018 at a Starbucks outlet in Philadelphia in which two black men were asked to leave, causing a media furore at the time. Ms Phillips said she was sacked after questioning the firing of another white supervisor, who did not oversee the store in question. The black manager of the store kept his job.

Pride comes before a fall

Bud Light is no longer America's bestselling beer, following a months-long boycott by conservatives angered by the brand's association with a transgender activist. Modelo Especial, a lager brewed near Mexico City for Constellation Brands, took the top spot in May. Bud Light's share of the beer market is now 7.3%, down from 10.3% in January.

New York introduced a minimum wage for **food-delivery workers** of $17.96 an hour, plus tips, which rises to $19.96 in 2025. The minimum wage for other workers in the city is $15. Labour activists complained that the new rate was still too low and would not cover workers' costs. Food-delivery companies such as Uber and Grub said New York had bitten off more than it could chew and that litigation is on the table.



COMPANIES SHOULD FOCUS ON PROFITS.

SHOULDN'T THEY?

Booth researchers are exploring
what should drive corporate decisions
in the 21st century.

**Expand your thinking at
ChicagoBooth.edu/company-profits**

**ANSWERING QUESTIONS AND
QUESTIONING ANSWERS.**

CHICAGO BOOTH
The University of Chicago Booth School of Business

CHICAGO LONDON HONG KONG

BritGPT

Rishi Sunak's enthusiasm is welcome. But his plans to make Britain into an AI superpower fall short

GET READY for some big British celebrations in 2030. By then, if Rishi Sunak is to be believed, the country will be "a science and technology superpower". The prime minister's aim is for Britain to prosper from the booming opportunities offered by supercomputing and artificial intelligence. Generative AI has stoked a frenzy of excitement (and some fear) among techies and investors; now politicians have started to acclaim its potential, and British ones are in the vanguard. Britain, says Mr Sunak, will harness AI and thus spur productivity, economic growth and more. As he told an audience in London this week, he sees the "extraordinary potential of AI to improve people's lives".

Mr Sunak's vim and his readiness to champion AI are welcome, even if his claims sound breathless. After all, Britain's government has spurred innovation that had sweeping economic effects—think of the Big Bang reforms in the 1980s that turned London into Europe's financial hub. There is every reason to believe a new AI era will create huge opportunities (see Britain section). He is right to plan for how to make the most of these chances. But could Britain, realistically, lead on this?

The country does have some advantages. It is home to several important AI companies, mostly in London—in particular, Google DeepMind. It has excellent universities, and welcomes the highly skilled foreign workers that AI companies need. The state generates troves of data; no other country has such an array of health records under a single entity, the National Health Service (NHS). And Brexit creates a chance to adopt an appealing regulatory position that could be a model for medium-sized countries around the world as they also rush to join the AI party.

But there are problems aplenty, too. The most obvious is that Britain is a smallish place. America's dominance in tech exerts a steady pull on capital, people and ideas, and American firms duly dominate in AI. The way Brexit was done means that Britain has lost access to the European Union's single market. Although Oracle has a cluster of the advanced graphics processing units (GPUs) needed to train large models, none of the cloud-computing giants has yet chosen Britain as the base for what techies call the "compute".

For Britain to prosper in AI, therefore, much will have to change. It needs to cram more people who know one end of a GPU from the other into positions of influence in government. Mr Sunak may loudly extol the promise of BritGPT, but his government should include more engineers who understand the mix of data and compute from which AI is built.

Time to chatGPU

Once it has the expertise, the government must deal with three broad concerns. The first is about those public datasets. They are in no fit state for AI developers to exploit—the data are unrefined ore, not sparkling treasure. Only the state has the authority to get these datasets cleaned up, and to start thinking of what new ones could be built. A stock of clean, regularly updated datasets that are technically and legally easy for algorithm-makers to use would draw in engineers who want to build new AI systems. An AI-ready NHS would be the jewel in Britain's crown.

Second, Britain should move fast to gain an edge in regulation. The goal should be a pragmatic set of rules keeping AI safe that sits somewhere between America's Wild West permissiveness and what is likely to be a regulatory warren in the EU. Mr Sunak announced at a White House meeting with President Joe Biden this month that he will host a global summit on AI regulation this autumn. Good. That will be the place and time to set out Britain's stall as having rules for AI that are sufficiently flexible to work for different industries. Hairdressers who want AI to help pick new styles, for example, need not be regulated in the same way as mortgage lenders.

The last and thorniest concern is how to get AI developers the compute they need to train and run large models. Advanced GPUs made by Nvidia—for now, the only chips worth using—are suffering a global supply crunch. The government could help by telling British companies and its own departments to be much readier than now to send their data abroad to AI developers in other, friendly countries. For most datasets, worries about privacy and security are overdone.

However, an unfortunate correlation exists between the sensitivity of datasets and their value in creating large models; data that are sensitive, that capture aspects of either human health or behaviour, or pertain to national security, are what would be most useful to inform new models. There is an understandable reluctance to send such data abroad.

That is why Britain urgently needs more GPU clusters within its borders. More compute on British soil will have all sorts of local spin-offs and benefits. Jeremy Hunt, the chancellor, has talked of giving academic computer scientists £900m ($1.1bn) to build a British supercomputer in Edinburgh.

Yet commercial AI is so dynamic that the Edinburgh scheme risks becoming an AI white elephant. Amazon alone spends around $25bn a year on compute. British taxpayers cannot keep up with the private sector—and should not try. Instead the government should do all it can to persuade commercial providers to invest in GPU clusters on British soil.

One focus should be to ensure a reliable supply of clean, affordable power. To train models needs mind-boggling quantities of electricity. If Britain is without cheap supplies of power, it will struggle to persuade anyone to set up big GPU centres there. The queue to obtain a connection to Britain's grid is holding back potential investors across the economy.

Other steps could include using public money to fund a "moonshot" project, such as developing open-source software, to help chipmakers break the near-monopoly that Nvidia holds on the AI market. Nvidia's edge comes from clever software which makes training models on its GPUs a breeze. Rival chipmakers in America and Britain have no equivalent and are all but locked out of the AI market. With better software their chips could compete with Nvidia's and ease the supply crunch that dogs AI developers the world over. That's a worthy ambition for a country seeking global AI greatness. ■

Indispensable India

America's new best friend

India does not love the West. Even so, America needs it

NO COUNTRY EXCEPT China has propped up Russia's war economy as much as oil-thirsty India. And few big democracies have slid further in the rankings of democratic freedom. But you would not guess it from the rapturous welcome Narendra Modi will receive in Washington next week. India's prime minister has been afforded the honour of a state visit by President Joe Biden. The Americans hope to strike defence deals. Mr Modi will be one of the few foreign leaders, along with Winston Churchill, Nelson Mandela and Volodymyr Zelensky, to address a joint session of Congress more than once. The praise gushed on Capitol Hill about the partnership makes no mention of Ukraine, democracy or grit in the gears of America's new best friendship.

As our Asia section explains, the global clout of the South Asian giant is rising fast. Its economy is the world's fifth biggest. Its 18m-strong diaspora is thriving, from America to the Gulf. And India has become indispensable to America's effort to assert itself in Asia and deter Chinese aggression. Yet though huge, capitalist, democratic and wary of China, India is also poor, populist and, as our interview with Subrahmanyam Jaishankar, its foreign minister, outlines, dismissive of the vestiges of the post-1945 Western order. The relationship is therefore a test case for the messy alliance of democracies emerging in a multipolar world. Can both sides gain the business and security benefits of co-operation even as they share fewer principles than they may care to admit?

India's ascent is an uplifting story. One of the fastest-growing economies, its GDP is expected to overtake Japan's and Germany's by 2028, even as it treads a novel path towards getting rich. In contrast to East Asia's Tigers, India's exports are powered by services, of which it is the world's seventh-largest vendor. Think not just of call centres but data scientists for Goldman Sachs. Infrastructure has also improved under Mr Modi and his immediate predecessors, and manufacturing may pick up as supply chains diversify from China: Apple assembles 7% of iPhones in India. India's chief failing is its vast numbers of unskilled, jobless young people. It is trying to help them by pioneering a digital welfare state.

Thanks in part to its diaspora, India's soft power is world-beating (see International section). The bosses of Alphabet, IBM and Microsoft are of Indian descent, as are the heads of three of America's five top business schools. Reflecting the accomplishment of Indian-Americans, 70% of the wider American public views India favourably, compared with 15% for China.

You might think all this makes America and India natural partners. Certainly, a 25-year effort to develop ties has been unaffected by political changes in either country. India is part of the Quad, a security grouping that includes America, Australia and Japan. In order to augment India's hard power, America is promoting a series of defence deals, some of which may be signed in Washington next week, to enhance military-technology co-operation. The Biden administration reckons this would be the biggest milestone in the bilateral relationship since the striking, in 2005, of a civil-nuclear co-operation agreement.

Yet the relationship faces two potential sources of friction. First, India's pro-Western tilt—which became more pronounced after border skirmishes with Chinese troops in 2020—is essentially pragmatic. Ideologically, it is suspicious of Western countries and flatly rejects their claim to global leadership. From Jawaharlal Nehru to Mr Modi, India considers the post-war order to have offered it little more than another bout of domination by other countries. The result of these contradictory impulses is disorientating. India is an American strategic partner that mistrusts the West, is unlikely ever to enter a formal alliance with America and is attached to Russia, which supplies it with arms. It is not clear how much support, if push came to shove, America could expect from India. It wants to bolster its land defences against China, not fight over Taiwan.

The second sticking-point is Mr Modi's attacks on liberal norms (see Banyan). Under his Hindu nationalist, Islamophobic party, India is increasingly hostile to over 200m of its own people. Lynchings and the dispossession of Christians and Muslims are becoming more common. The press is cowed and the courts are largely pliant. Though India seems sure to remain a democracy—not least because Mr Modi is almost guaranteed re-election next year—it is an illiberal one. The fact that only 60m of its 1.4bn people have formal jobs is a potentially explosive situation in a country prone to rabble-rousing.

Some suggest that America risks repeating its history with China, by showering economic advantages on a rival that ends up turning against it. That seems unlikely. Mutual suspicion of China alone should keep India close. Primly rejecting co-operation with India because its ideology and democracy do not conform to Western ideals would only empower China. It would also show that America has failed to adapt to the multipolar world that lies ahead.

Instead, America and its allies should be realistic about where India's sympathy lies—with its interests, not theirs—and creative in their efforts to find overlaps between the two. That means layering the relationship with common endeavours. The Biden administration's efforts to accelerate technology transfer to India seem a promising example. By boosting India's defence industry, America hopes to wean it off dud Russian weapons and provide an affordable new source of arms for other Asian democracies. Other areas of co-operation could include clean energy and tech, where both seek to avoid relying on China.

An alignment of interests, not principles

America's foreign policy has always combined realism with idealism. So America must speak out against attacks on democratic norms and human rights, even as it works more closely with India. For its part, India must get used to the idea that, as it grows more powerful, it will face more scrutiny. Discount the expressions of unconditional friendship and brotherhood in Washington next week. To work, the relationship will have to function like a long-term business partnership: India and America may not like everything about it, but think of the huge upside. It may be the most important transaction of the 21st century. ■

Donald Trump is indicted

Secrets and fries

The former president says he is the victim of a witch-hunt. Nonsense

The arraignment of Donald Trump at a court in Miami on June 13th marks a first in American history. The current president's administration believes that the previous president endangered national security, by wilfully mishandling classified documents. Even more extraordinary, the defendant is the front-runner in the Republican primary. Thus the 2024 election could turn into a campaign for Mr Trump to stay out of prison.

Such a fight would suit Mr Trump. Before the indictment was even unsealed, his campaign seized on it as a fundraising opportunity. His people lashed out against Joe Biden, Mike Pence and Hillary Clinton. All hung on to classified documents or were reprimanded for carelessness with official secrets. But only Mr Trump has been indicted—proof, they say, that he is the victim of a witch-hunt.

Nonsense. America's security bureaucracy classifies so many documents that lots of officials and politicians inadvertently end up holding secret files. In practice, they are prosecuted only when the most secret papers are involved; when those who possess them refuse to hand them back or obstruct justice; and when they leave them vulnerable to snoops or share them with others. Mr Trump is alleged to be guilty of all three.

Some of the documents in his indictment are highly secret. Others are marked "HUMINT", which means they have been gathered by sources who could be in grave peril if caught.

Mr Trump's handling of the documents is worrying, too. Lawyers for Mr Biden and Mr Pence found classified papers and handed them to the Justice Department. Mr Trump left the White House with at least 15 boxes of documents, containing at least 30 top-secret files. These are not in the indictment because Mr Trump's office returned them. The problem was that even then, Mr Trump hung on to more secret files and told his lawyers to hide or destroy them. "Why don't you take them with you to your hotel room and if there's anything really bad in there, like, you know, pluck it out," he reportedly told one. Earlier this month a retired air force lieutenant-colonel was sentenced to three years in prison for "wilfully retaining" top-secret information.

Mr Trump's documents were also vulnerable to being seen or stolen. Mr Biden left classified documents in his garage next to his Corvette—which was both sloppy and on brand. Mrs Clinton's were kept on a personal email server that she used for work. Mr Trump's were at Mar-a-Lago—whose several hundred members can take guests for a swim or a club sandwich and fries. According to the indictment, many boxes were in a storage room, which could be reached from the pool through a door that was often open.

Mr Trump is also alleged to have shared documents. His need to brag is so strong that he let a writer, his publisher and two staff members look at what was probably a plan for bombing Iran's nuclear-enrichment facility at Fordow. "This is secret information," he is recorded saying. "See, as president I could have declassified it. Now I can't, you know, but this is still a secret."

So serious are these allegations that not to have charged Mr Trump would have been to single him out for special treatment. Bill Barr, Mr Trump's former attorney-general, told Fox News that the indictment is "very, very damning" and concluded that "If even half of it is true, then he's toast."

That Mr Trump could be brought down by vanity, paranoia, chaos and conceitedness seems tragicomically apt. The trial and appeals may well drag on past next year's presidential vote. If he were elected, that might well spare him a trial until 2029. But if he were convicted, a second-term President Trump could seek to pardon himself. That really would be unfair. ■

Global commerce

Undoing business in China

The crackdown on foreign firms will deter global business—and undermine China's own interests

Bosses of multinationals may have breathed a sigh of relief after the leaders of the G7 group of rich countries met in Japan last month. The talk was not of decoupling their economies from China, but of "de-risking" commercial ties with it. Yet any respite will have been momentary. The reality of operating in China is becoming increasingly bleak. As China takes a harsher approach to data privacy and counter-espionage, lawyers and executives say that the mood is tenser than ever.

Officials have raided a number of foreign firms, invoking vaguely worded laws concerning data, intellectual property and national security. Since the spring they have searched the offices of Capvision and Bain, two consultancies; and they have detained employees from Mintz, an American due-diligence firm, and Astellas, a Japanese drugmaker.

Routine lawyering is now harder. Contracts containing non-public information about state-owned firms could turn out to be breaking the law. Due-diligence firms asking questions about local tycoons could also find themselves in trouble. According to the *Wall Street Journal,* local branches of asset managers can no longer tell their overseas headquarters the size of their positions in local firms, or the names of their clients. Even forwarding an email signature to a recipient abroad could be judged an infringement of rules governing sensitive personal information.

China used to take a lax approach to intellectual-property (IP) rules, partly because its economy needed foreign know-how. Now that it has more IP of its own to protect, it is more stringent. ▸▸

It has also become more guarded about data as it seeks to fend off Western sanctions. To be sure, worries about data security are not limited to China: American lawmakers are clamouring to ban TikTok, an app ultimately owned by a Chinese firm, which they fret might share data with the Communist Party. But two factors make China's actions especially chilling for business.

One is the opacity that surrounds them. The rules are hazily worded—perhaps by design, to leave officials free to act as they choose. The authorities rarely feel compelled to explain themselves. As a result, most multinational firms worry they could be punished for breaking laws that seem arbitrary. The second is the types of companies being pursued. Professional-services advisers, including lawyers and due-diligence investigators, provide the information companies need to do deals and expand in China. If they cannot operate, their customers suffer, too.

This adds up to a tax on global business. Many companies are turning to costly workarounds in order to continue to operate in China. Some are drawing up contingency plans; others are considering hiring staff to ensure compliance with the rules, and developing software to ring-fence data on Chinese operations.

At most multinationals these costs will not extinguish the allure of China's vast market. In 2021 the 200 biggest global firms made sales of $700bn in the country. But at smaller or less successful firms, they could tip the balance between risk and reward. Others may follow Sequoia, a venture-capital firm, which on June 6th announced plans to break off its China branch.

Large yard, high fence

Such bluntness could be bad for China. Its approach may keep some secrets out of foreigners' hands. But by driving firms away, it is also likely to do itself substantial harm. Officials say they want to attract investment and that China is open for business after years of zero-covid. Their actions belie those words.

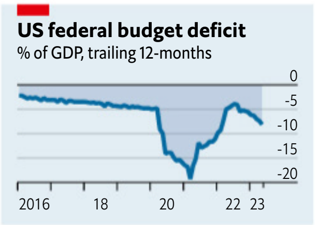
They also undermine support in the West from the last of the China doves—the businesspeople and financiers who for years made bumper profits in China, while in turn helping fuel the country's exporting success. They used to be advocates for a friendlier approach to China. Even today, they are less forceful advocates than they once were. As decoupling becomes a reality, they may fall silent altogether. ■

Fiscal policy

Recklessly red

Governments' failure to tighten their belts to fight inflation is grossly irresponsible

THE DIRE state of rich-world governments' budgets would make even the luxury-loving Madame Bovary wince. America has avoided a debt-ceiling disaster, but in the year to May the federal government's revenue fell short of its spending by $2.1trn, or 8.1% of GDP. In the European Union politicians are finding that rising interest rates mean the debts financing much of the bloc's €800bn ($865bn) in post-pandemic recovery spending threaten to drain the common budget. Japan's government recently omitted from its economic-policy framework a timetable for balancing its primary budget, which excludes interest payments but is still in the red by more than 6% of GDP. And on June 13th Britain's cost of borrowing for two years rose above the levels reached after its calamitous "mini-budget" in September (see Britain section).


US federal budget deficit

% of GDP, trailing 12-months

Global fiscal policy does not only look reckless—it is also unsuited to today's economic circumstances. High inflation and low unemployment mean the world needs tight policy, not loose. On June 14th the Federal Reserve held interest rates steady while it waited for more signals about the health of the economy. But with underlying inflation above 5%, few believe it will stand pat for long. As we published this leader, the European Central Bank was poised to raise interest rates again. The Bank of England will almost certainly follow on June 22nd; with nominal pay rising at an annual rate of 6.5%, Britain is uniquely exposed to the threat of a wage-price spiral (see Free exchange).

Politicians' failure to get the memo is astonishing. America's deficit has previously exceeded 6% only in periods of turmoil: during the second world war, after the global financial crisis and, most recently, following covid-19 lockdowns. Today no such disaster makes vast emergency spending necessary. Even the energy crisis in Europe that resulted from Russia's invasion of Ukraine is in abeyance. The main effect of all this lavish borrowing has been to stimulate economies, forcing interest rates higher than they would otherwise need to go.

Higher interest rates make financial instability more likely. They also affect government budgets. For every one-percentage-point rise in rates, the British government's debt-service costs rise by 0.5% of GDP within a year. One reason America faces a revenue shortfall is that the Fed's profits, which flow into the Treasury's coffers, have turned to losses as the central bank has had to pay more interest on the money it created to buy bonds during the stimulus years. These feedback effects matter. Monetary policy controls inflation only if budgets are prudent, which becomes less likely as interest bills mount.

Yet politicians' efforts to change course have been paltry. Even after the "Fiscal Responsibility Act", which lifted America's debt ceiling and trimmed spending, net public debt is forecast to rise from 98% of GDP today to 115% by 2033. The British government, having planned to tighten its belt last year, now reportedly hopes to cut taxes. The euro zone looks solid enough as a whole but many of its member states are fragile. At the interest rates now priced in—and they could yet rise further—bringing down Italy's already huge debt-to-GDP ratio at the glacial pace of one point per year over several decades probably requires surpluses before interest payments of 2.4% of GDP.

All the while, pension and health-care systems face the strain of an ageing population; reaching net-zero carbon emissions requires public investments; and defence spending needs to rise to counter the threat posed by autocracies. These demands on the state are not unworthy. But if governments want to satisfy them, they will need to raise taxes to do so—or accept the eventual inflationary consequences. ■

Letters

The dominance of English

Johnson (May 27th) claimed that Anglophone peoples must accept that the English language no longer belongs to them but to non-native speakers of English. The empirical evidence does not support this claim. Most speakers of English as a second language have an elementary or intermediate knowledge of it that is by no means comparable with that of native speakers. A study for the European Parliament that I co-wrote shows that only 11% of adults of working age in the EU claim to know English very well, far less than the 40% claimed by Johnson.

Native Anglophones hold the "monopoly of legitimate competence", to paraphrase Max Weber. This is evident in academic journals, where authors are always asked to write in American or British English, and to have their articles proofread by a native speaker in order to avoid rejection. ELF (English as a lingua franca) is not accepted.

The economic and symbolic advantages for native Anglophones are immense, and this raises a problem of global linguistic justice that should be tackled, for example, through a language tax, or by reducing the extent of the legal protection of copyrights and patents published in English. Since native English speakers do not have to learn other people's languages and thereby make huge savings, it is fair that the rest of the world should freely appropriate some intellectual products published in English.

MICHELE GAZZOLA
Lecturer
Ulster University
Belfast

Oil-price benchmarks

You summarised the significant work that has been done over the past several years to ensure sufficient physical crude oil will remain deliverable against the Brent benchmark for many years to come ("New anchor", June 3rd). Platts, a part of S&P Global Commodity Insights, has led many such initiatives in Brent since we launched the Dated Brent benchmark in 1987. This includes the introduction of the Forties and Oseberg crude streams in 2002, Ekofisk crude in 2007, Troll crude in 2018 and now Midland crude in 2023.

We are proud of our role in the evolution of commodity benchmarks so that they remain reflective of the markets we serve. Far from "needlessly raising questions" about benchmark robustness, our forward-looking work on commodity benchmarks has ensured that they have been robust through every cycle in the global economy.

SAUGATA SAHA
President
S&P Global Commodity Insights
New York

Pakistan and Imran Khan

Your leader and article on Pakistan ("Soldiers, go home"; "Military victory", June 3rd) failed to take the viewpoint of the government. We object to you labelling Pakistan as a "global menace" without providing any substantial evidence to support such a damning claim. Furthermore, the assertion that Imran Khan is under "de facto" house arrest is false. He enjoys unrestricted access to the media and is free to express his views openly.

The claim that the army orchestrated the vote of no confidence in April 2022 is unfounded. The removal of Mr Khan's government was carried out through a universally acknowledged constitutional process. Contrary to your speculation, there is no evidence of the army's involvement in framing the charges Mr Khan faces in the courts.

And comparing Pakistan's economy to India's is unfair. You conveniently overlooked Pakistan's sacrifices as a frontline state in the war on terror, which have had a significant impact on the economy. Political polarisation and instability caused by Mr Khan's party only worsened the economy.

Attacking state institutions, as was done recently in Pakistan, is widelyy condemned. *The Economist* knows this. The perpetrators of violence will be brought to justice by various courts. These include military courts, established in 1952, and their decisions go through multiple layers of appeals to ensure justice is served.

MUNEER AHMAD
First secretary (press)
Pakistan High Commission
London

The Productivity Genie

Congratulations to Bagehot for calling out British politicians who fall under the spell of the "Reform Fairy" (June 3rd). Perhaps Bagehot could turn his attention to the Productivity Genie. Both Conservative and Labour politicians firmly believe that productivity will lift economic growth and tax revenues, thereby reducing the need to choose between higher taxes or reduced public services. Alas some of your writers seem to believe in this genie too. I have lost count of the number of "this time it is different" stories on the latest innovation that will lift economic growth. But it always ends the same way.

Productivity may rise, but output doesn't. Instead the gains go to more low-productivity activities, like health care, or a reduced workforce, or early retirement, or more messing about (surfing social media).

MATTHEW GREEN
Isfield, East Sussex

Kissinger on Ukraine

I find Henry Kissinger's view that the West provoked Russia's aggression in Ukraine to be preposterous ("How to prevent a third world war", May 20th). The reality is that the West became less confrontational after the fall of the Soviet Union, which was an unalloyed good. Most European countries reduced the size of their armed forces and defence budgets. America was preoccupied by other regions and reduced its military presence in Europe. Ukraine gave up its nuclear weapons. The withdrawal of America from Afghanistan reduced the presence of Western arms in areas close to Russia. Europe tied itself closer to Russia through its natural gas. Russian external savings washed through the European financial system.

Given these facts, Vladimir Putin took the decision to invade Ukraine because he thought he could get away with it, rather than any provocation by the West.

LARS SCHONANDER
Larchmont, New York

Mr Kissinger is "reviled by many as a warmonger for his part in the Vietnam war" you say. That includes his illegal and secret bombing campaign in Cambodia that killed tens of thousands of civilians. An action that helped sow the seeds of the Cambodian genocide, as it drove Cambodians into the arms of Khmer Rouge.

Rather than sitting down with Mr Kissinger to hear him pontificate on matters of diplomacy, perhaps *The Economist* could have asked him whether he felt guilty celebrating his 100th birthday, when many of the Cambodian victims of his statesmanship died very young.

THOMAS PRATT
Chicago

Phonetic victory

The word plays in your headlines are often witty. However, the title of your leader on the Turkish president's re-election, "Erdogain" (June 3rd), fell flat. The pronunciation of Erdogan is not Er-do-ghan but rather Er-do-wan. Er-do-won may have been more appropriate, or perhaps Er-do-wane, given his rather meagre majority vote and the state of the Turkish economy.

JEM ESKENAZI
London

Letters are welcome and should be addressed to the Editor at
The Economist, The Adelphi Building,
1-11 John Adam Street, London WC2N 6HT
Email: letters@economist.com
More letters are available at:
Economist.com/letters

100% ELECTRIC. 2% BENEFIT-IN-KIND.

Official Fuel Consumption: N/A (not applicable); CO_2: Emissions 0 (g/km) EV Range up to **292 miles / 470 km**. The figures provided are
Real world figures may differ. Energy consumption and range figures may vary according to factors such as driving styles, environmental
over a standardised route. Vehicle shown has optional features. Offer applicable for 2023/24 tax year.

JAGUAR
I-PACE

as a result of official manufacturer's tests in accordance with EU legislation with a fully charged battery. For comparison purposes only.
conditions, load, wheel fitment, accessories fitted, actual route and battery condition. Range figures are based upon production vehicle

We have something important we'd like to share. Our profits.

Unlike banks, we share our profits with our members.

We call it The Nationwide Fairer Share.

THE Nationwide FAIRER SHARE

Nationwide Building Society

Nationwide Building Society. Head Office: Nationwide House, Pipers Way, Swindon, Wiltshire, SN38 1NW.

Does not compute

Rishi Sunak's AI dreams

Without more domestic computing power, cleaner datasets and smarter regulation Britain risks squandering a rare opportunity

REFORMING THE BRITISH STATE

Rishi Sunak dreams of Britain becoming an AI superpower. The prime minister says the technology, the subject of intense global interest thanks to successes of large language models such as GPT-4, could unlock economic growth and improve sclerotic public services. AI-related announcements these days gush from Downing Street faster than commentators can keep up. In March Jeremy Hunt, the chancellor, vowed to spend £1bn ($1.3bn) over five years on AI and supercomputing. In May Mr Sunak met the bosses of leading AI companies in London. On June 7th, while visiting Joe Biden in Washington, he said that Britain would host the "first global summit on Artificial Intelligence" this autumn.

His broadest ambitions are well placed. AI has great potential, and Britain has an edge that could help it to prosper. The country is arguably the foremost location, outside China and America, to start a new tech company (see chart 1 on next page). It is home to important AI outfits, most notably DeepMind, an AI research lab owned by Alphabet, an American tech giant, and Stability AI, a generative-AI startup, both in London. Its excellent universities churn out capable graduates who are keen to toil in AI. In London, too, it has a globally appealing city that draws investors and high-skilled migrants.

Data collected by its public bodies—crucially that from the enormous National Health Service (NHS), for example on drug-use outcomes, hospital logistics, or scans of the body under different conditions—could provide a goldmine for training health-focused AI. The government also has a decent record of finding ways to use tech well. Just over a decade ago it launched the Government Digital Service, which digitised public services such as the issuing of passports or driving licences. That has been copied by governments around Europe and in America.

But for all the well-intentioned zest for the big new thing, Mr Sunak's government has yet to confront reality: enormous hurdles still block Britain's path towards AI success. AI systems are built from three ingredients: computation, clean datasets and the work of people who know how to wrangle vast quantities of both. A successful industry, in turn, needs the right regulation. Britain has serious difficulties to overcome in all those areas, and especially in the first two.

The most pressing problem is over "compute", the term AI researchers use for the vital infrastructure, lots of computing power, required to train the new sort of AI models. None of the big three cloud-computing companies—Amazon, Google, Microsoft—has built a large, advanced cluster of graphical processing units (GPUs) for compute to happen at scale in Britain (see chart 2). Only Oracle, a relative newcomer to the field, offers a cluster. This is in part because of Britain's smallish domestic market and its lack of access to the large ▸▸

→ Also in this section

22 The trade in body parts
23 A hot labour market
24 Bagehot: Boris Johnson's lost legacy

one on its doorstep.

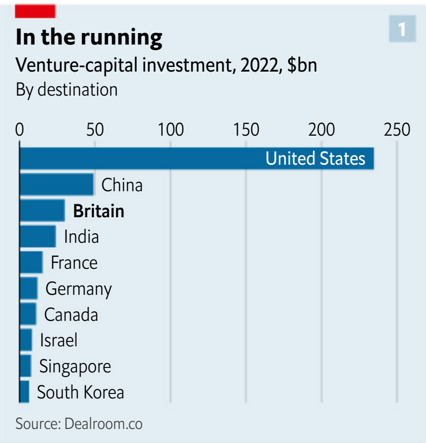
The fate of DeepMind, the country's most hopeful AI company, illustrates the compute problem. It had about 80 staff, all in London, when bought by Google (now Alphabet) in 2014. Today it is vastly bigger, with over 15% of its employees in America, mostly at Alphabet's headquarters, according to information on LinkedIn, a social-media platform. For Demis Hassabis, one of DeepMind's founders, this growth couldn't have happened with domestic resources alone: the pressing reason for selling to Google was the need to access the compute for training models. Today, DeepMind trains them in Oklahoma. What it faced roughly a decade ago persists today. Pitifully little has been done to tackle the shortfall. The lack of access to compute remains the biggest problem for AI growth, and for winning the wider economic benefits of Mr Sunak's dreams.

Politicians say that they are acting on this. Mr Hunt says he will spend £900m on a supercomputer, probably at the Edinburgh Parallel Computing Centre, "because AI needs computing horsepower". The EPCC is indeed world class in supercomputing for scientific research. But, sadly, not all such horsepower is created equal. The new computer won't be ready before 2026 and the centre has no experience in building the kinds of GPU clusters used to train large AI models. And whereas the cloud clusters provided by Amazon, Google and Microsoft (who are also known as hyperscalers) are routinely updated with the latest chips, the EPCC, in contrast, will be stuck with whatever GPUs it can obtain now. It will then live with them until 2031, when its funding runs out. That is an eternity in AI time.

Beasts with horsepower

Mark Parsons, an eminent computer scientist who runs the EPCC, is right to say supercomputers and GPU clusters are increasingly similar beasts, but even he accepts that the government plan has disadvantages. "The hyperscalers pride themselves in continuously updating their GPUs," he concedes, adding that the cost of doing that is too high for others to match. Others are less polite. For the government to claim a single, powerful computer in Edinburgh would solve Britain's compute woes is "borderline dishonest," says a well-connected techie who understands the mix of data, compute and skills required.

An alternative option exists: renting compute. No companies or government agencies are entirely locked out from using AI. Anyone (at least when a global shortage of chips eventually eases) may rent time on cloud supercomputers used to train models. Anyone can download Common Crawl, an internet-scale database on which GPT-4 was trained, and start training a model. And anyone can use GPT-4 or a host of excellent open-source models to generate text or code.



In the running

Venture-capital investment, 2022, $bn

By destination

Source: Dealroom.co

"Compute is not like oil," notes the techie. "You can call Amazon and rent it. It's a problem that money solves in perfectly continuous increments. It's not this magical thing that if you don't buy it you can't have," he says. Some companies do exactly this. The boss of Stability, Emad Mostaque, says his firm in London trains its models on Amazon's compute clusters based in Ohio and Virginia, for example.

The trouble is that Stability's behaviour is more exception than rule. Too often, British officials or companies require—for reasons of politics, national security, privacy or something else—that their data remain in the country. Neither the Ministry of Defence nor the NHS, for example, is about to upload sensitive data to foreign clouds. The boss of one large tech company with several public-sector contracts describes going "on bended knee" to the hyperscalers, begging for access to compute in Britain. He was offered GPU time in the Netherlands or Ireland. But without local GPUs, he is not permitted to help his government customers train or run AI models based on their unique datasets.

Nor is sensitivity about data the only downside to renting compute abroad. Being physically close to compute at home brings real benefits. AI engineers and companies gain expertise by experimenting regularly on it. Techies seeking innovations need hands-on time. "A country generates large benefits beyond access from having technology assets physically located there. 'Learning by doing' and the compounding of process knowledge is key to having a vibrant deep tech ecosystem and the high value jobs and companies that come with it," says Matt Clifford, chair of the Advanced Research and Invention Agency, a government skunkworks that helps to fund research in tech.

Mother Sunak's AI cupboard 2

Presence of Nvidia A100 clusters suitable for training large models, June 2023

	Britain	Asia	European Union	United States
Amazon AWS	✗	✓	✓	✓
Google Cloud	✗	✓	✓	✓
Oracle	✓	✗	✓	✓
Microsoft Azure	✗	✗	✓	✓
Alibaba	✗	✓	✗	✗

Source: Cloudoptimizer.io

The most ambitious progress, therefore, depends on getting hyperscalers to set up GPU clusters in Britain. So how to do that? In the first instance, says one tech boss, Mr Sunak should know better what to ask for. He could start by launching a "global lobbying unit" to press for Amazon, Google or Microsoft to set up shop. The government should consider what hyperscalers would need to build in Britain.

Building entire new datacentres is not necessary. Instead Amazon, Google or Microsoft could replace servers in their existing (older style) British-based centres with ones that include the new chips produced by Nvidia, ideally the latest A100 or H100 models. Obtaining those chips may be the biggest problem in the short term, given a global supply crunch.

Another challenge would be ensuring sufficient supplies of electricity, at low enough cost (and ideally green), because training AI models devours a lot of power. Such tasks don't look insurmountable, even if there would not be a quick fix. (Though it is hard to imagine it would take longer than building Mr Hunt's supercomputer). In the meantime Britain will have to limit itself to using foreign compute.

The longer the delay, however, the lower the chances of success. Without hyperscale GPU clusters, another set of British companies misses out: those attempting to supply picks and shovels in the AI boom. Nigel Toon, the boss of Graphcore, a young British company based in Bristol which makes AI chips, notes that his American competitors have great advantages that he lacks in selling their products to local, big stacks of compute.

Unsurprisingly, he also wants the new supercomputer in Edinburgh to favour British suppliers like his firm. The hour grows late, though. Sequoia, one of Graphcore's biggest investors, wrote down the value of its stake to zero in April. Meta, another American tech giant, has already scooped up some of the Graphcore team. The Bristol firm has plenty of cash in the bank, but desperately needs to get its chips into data centres.

After the difficulty of the compute des- ▸▸

IT'S ALL PART OF THE BROADER ENERGY PICTURE
equinor
Wind, oil, gas, carbon capture, and new jobs.

Equinor has been delivering energy solutions to the UK for 40 years, and we are now working to help the UK achieve a smooth energy transition. Along with our partners, we're producing the oil and gas the UK needs now; and will be powering millions more UK homes with wind, capturing and storing carbon safely, and creating jobs to build thriving communities. It's broad energy for a brighter future.

equinor.co.uk

Strategy in Action
A CEO series by EY-Parthenon

EY Parthenon
Building a better working world

How can today's leaders realize tomorrow's opportunities?

Find out how CEOs are implementing strategies for success – search Real-world strategy

REC 00:00:24
24FPS ISO250 VMCLR 1/48SEC 5600°
"It is absolutely crucial to have a purpose. Ours is to use our creativity as a force for good and we embed that into everything.
Rachel Pendered
CEO Media Zoo
EY-Parthenon
CEO series: 4/4
Petra von Strombeck
CEO New Work SE
Zak Brown
CEO McLaren Racing

The better the question. The better the answer.
The better the world works.

© 2023. EYGM Limited. ED None. All Rights Reserved. EY-Parthenon is a brand under which a number of EY member firms across the globe provide strategy consulting services.

ert, the other challenges look more manageable. One priority is improving the datasets available for AI developers. Data generated by public agencies should be the most appealing raw material for those working on AI. Unfortunately, they are too often a mess, including those within the NHS. Data to do with welfare are no better. Officials say that the computer systems running the Department for Work and Pensions are so feeble, for example, that six months are needed to adjust recipients' benefits for inflation. Trying to build BenefitsGPT atop a creaking 20th-century infrastructure looks like a fool's errand.

At least cleaning up the valuable datasets is within the control of the government. Officials could also look for benefits from generating new ones. "States don't leverage their only advantage: the sovereign right to produce data about things companies don't have," says Benjamin Bratton, who has written a book on the state's relationship with technology. He observes that states have the means to "produce models of their societies", but Britain's government (like most) lags behind tech companies in being able to model its own people's behaviour, the country's environment and its resources.

The NHS is particularly ripe for a data retrofit, though the road to doing this is littered with the bodies of politicians and companies who tried and failed. NHS IT, an effort to centralise medical records that was launched in 2002, ate up at least £10bn before it was quietly dumped in 2011. New companies are popping up, attempting to solve the problem in a bitesized manner. At least one new startup wants to be paid to clean up government datasets, to make them useful for training AI models and to improve the more mundane services those data flows allow.

The last £100m of Mr Hunt's £1bn on AI may help with this. It is to be spent through a new Foundation Model Task-force. The outfit will focus on finding ways to train big models for the public sector and on making "strategic investments in the full AI stack," says an official. That is encouraging, even if the amount of money available is small; training a single large model once could eat up much of the funds Mr Hunt has set aside. "Sovereigns have the most interesting leverage on data, for sure," says the official. The task-force may direct some of money to kick-starting a data-hygiene industry, something for which there has not, to date, been a business model.

Making all of this happen in turn requires having enough skilled people around: British universities produce lots but, given the huge draw of Silicon Valley, there is also a steady flow of techies across the Atlantic. And as talent flows West, it takes its intellectual property along. "The reality is that the number of people who have seen GPUs melt because of 24/7 training jobs is very small," says Nathan Benaich of Air Street Capital, a London VC firm. "Certainly they don't work for the government, and they can't be hired by the government to do a deal with the cloud vendors. These are the guys who know how it works."

Neither Wild West nor rabbit hole

One step to better retaining talent (as well as attracting investors) is to get the regulation of AI right. This means avoiding the path that the European Union is expected to follow, with ever-expanding swathes of horizontal rules, ones that cut across sectors, on how AI can be used safely. Britain's existing sector-by-sector, common-law approach, which would regulate different industries differently, looks like a better bet. Given global anxieties about the power and impact of AI, "there's an opportunity for Britain to move quickly and establish itself as a pragmatic place," says the tech boss who is struggling to access compute. Mr Sunak's summit in the autumn should be a good place to start.

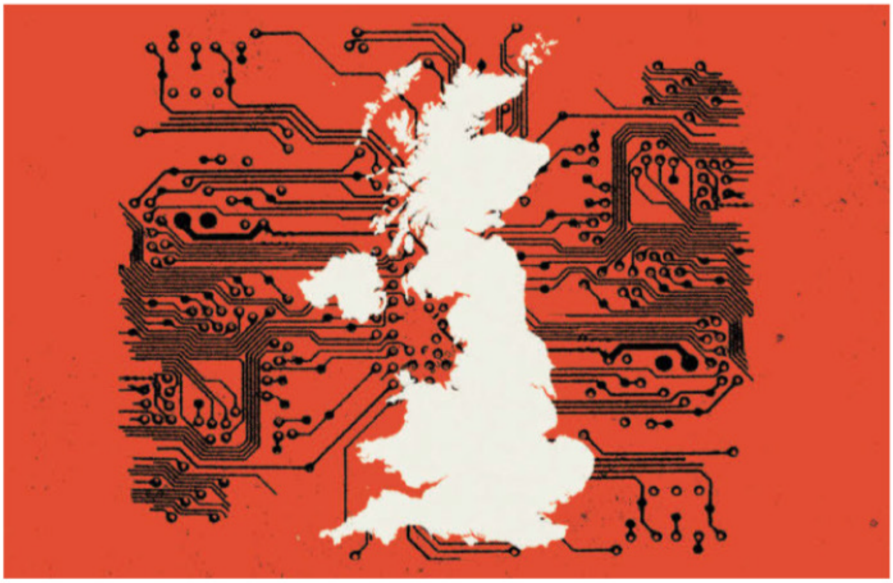
"I do buy the Sunak picture," says the tech boss. "In keeping with common law. You have these context-specific regulators. You don't have broad cross-sectoral statutory regulations. The EU is not going to do it; it has disappeared down the EU rabbit hole and is going to be down there for a couple of years. The US is going to be the Wild West. Britain is the one place that's going to combine that concern around ethics of models and their application with a deep pragmatism and openness to innovation. We have courts and regulators that are globally respected."

Achieving more of this, and faster, also requires having more people in positions of power who understand computation. "We lack competence and confidence at the heart of government," says one adviser. "The people who run compute policy in the Department for Science, Innovation and Technology really just don't understand it. They don't understand the difference between general and specific computing." Hence the trumpeting of a supercomputer built by computer-science researchers as an answer to the country's AI woes.

For an example of what savvy techies with official support can do, look to the United Arab Emirates. Its government-backed Technology Innovation Institute used Amazon's cloud to train an open-source large language model called Falcon which is competitive with the best models trained by American companies, such as OpenAI. TII grants access to its compute to people with new ideas for training models and starting companies. Every nerd in the world has taken notice, and many now contribute their brain power to a project whose benefits—such as attracting computer graduates to work on AI projects—broadly accrue to the UAE.

The closest thing Britain has to this is Stability, the startup whose models generate photorealistic images. Its open source Stable Diffusion model produces pictures which have driven many on the internet into a frenzy (think fake pictures of Donald Trump's arrest, or the pope in a Balenciaga jacket). But the gravity of America's tech scene is exerting itself on Stability. The firm started in London but the majority of its employees are now in America, according to LinkedIn data. American backers provided all of its most recent funding.

Mr Sunak's route to British AI superpowerdom will not run along paths where the most promising companies add most of their jobs overseas. Much remains to be done to make Britain more attractive, but the race has already begun and, for now, the country lags. ■



Anatomy

Costing an arm and a leg

NOTTINGHAM

Human bodies are surprisingly cheap—and desperately needed

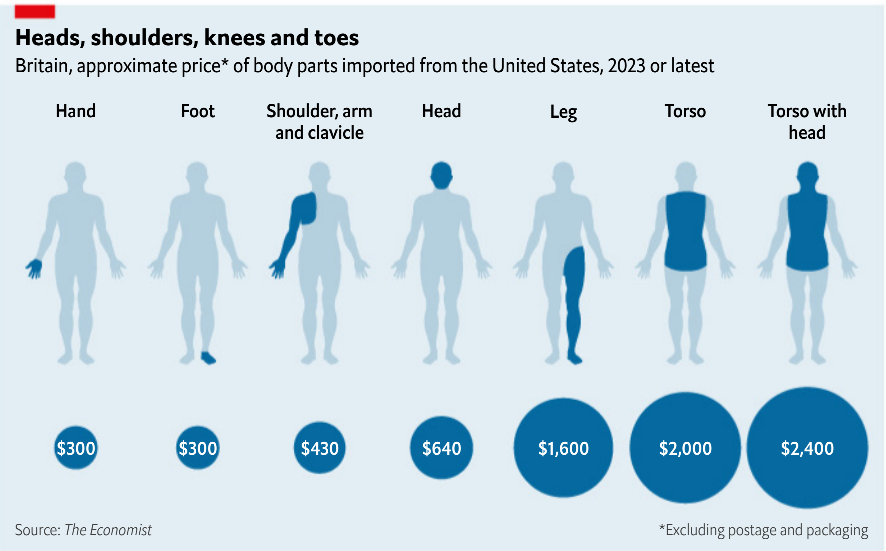
A HUMAN HEAD will set you back about $640. An arm is less: that costs roughly $430. A leg, by contrast, is $1,600; while a torso costs around $2,000. A hand, however, is a mere $300. Postage and packaging, as so often online, add considerably to the cost of these American imports—at times to the tune of thousands of dollars. And not wholly without reason, for transporting fresh-frozen corpses can be tricky: they need a lot of ice. They can defrost at awkward moments. They can puzzle customs officials. But overall, human body parts come surprisingly cheap: getting an arm and a leg rarely costs an arm and a leg.

There exists a surprisingly lively international trade in dead human bodies for medical dissection. This trade is rarely discussed and relatively lightly regulated: there is no one head, or body, that directly oversees the imports of heads and bodies. This trade is also important, for it allows doctors to practise on real, dead humans before they practise on real, live ones. As one doctor puts it, "would you rather a surgeon learned on you, or on a cadaver?"

Most would rather ignore that question altogether. A combination of sanctity and squeamishness meant dissection was forbidden in Britain until the 16th century, while an early attempt by two Edinburgh-based entrepreneurs, William Burke and William Hare, to invigorate the market in corpses (by killing people) merely sullied the reputation of anatomists. If death remains a taboo then the remains of the dead are even more of one. This is not, says Peter Dangerfield, the president of the British Association of Clinical Anatomists, "the sort of thing you'd talk about over...dinner in the evening over a glass of wine".

Which is a pity, as cutting up corpses matters. It is not essential to use dead bodies to teach medical students: computer generated anatomical simulations exist. But for all the digital brilliance there are still things that flesh and blood can do that computers cannot—such as making medics faint. Looking at a model "isn't quite the same as seeing the real thing in front of you", says Professor Dangerfield. Corpses offer more muted emotions, too. To hold a human skull in your hands is, Hamlet-like, to be underwhelmed rather than awed. A head, emptied of human, is surprisingly small; you will have eaten from more substantial cereal bowls.

Bodies help with practical considerations as well as emotional ones. Textbooks tend to offer anatomy that is just that: textbook. Similarly, computer models, like the human kind, tend to have square jaws, broad shoulders and impressively toothy grins. Reality is much messier, and the visible variation on humans is as nothing compared with what lies beneath. Textbooks will tell you that there are three branches coming off the aorta but, says Claire Smith, head of anatomy at Brighton and Sussex Medical School, it is "really common to see four [or] to see two branches". To do their job as well as possible, surgeons need to be aware of such variations in viscera.



Source: *The Economist*

*Excluding postage and packaging

The demand for bodies, then, is there—but in many countries it is not matched by supply. Around 1,300 donors (anatomists are careful to call the bodies "donors" rather than "cadavers") are accepted each year in Britain. But not all that are donated can be used. Bodies might be rejected for many reasons, including being HIV positive; being too thin; too tall; too fat; or having an open wound (embalming fluid pours out). At other times, demand can simply be too sudden to meet: finding 20 human heads in a hurry is hard.

The invisible hand

Which is where the international trade comes in. What determines whether a country is a net importer of body parts (like Britain) or exporter (like America) is chiefly what form of consent it allows. Britain allows only first-person consent, by which someone may donate their own body to science while of sound mind. America allows second-person consent, through which someone—or the state—can donate a deceased person on their behalf; in some places, dead prisoners can legally be used.

Second-person consent has its advantages. Give up a relative and you save on funeral fees (the cost of dying, like the cost of living, has risen) and also on bother, for such companies are slick operators. "If you are calling for a patient or a loved one that has passed away..." says a softly-spoken American voice message of one bodybroker, "please press 'one' now." Technically, such companies do not sell bodies; they merely charge fees for procuring, handling and shipping them. But to use their services is, for British doctors "a last-resort sort of situation" according to Professor Dangerfield. Until recently, however, they had little alternative.

That is changing. At the end of an underwhelming looking corridor in Nottingham City Hospital, behind a clinical white door, is a large white room. Its temperature is a refreshingly cool 18°C; its smell is cleanly chemical; its air hums quietly with the sound of refrigeration. It might be a commercial kitchen—but on a steel tray, beneath a shroud-like covering, lies a body. And in the freezers around its walls are human legs, arms, heads and torsos.

This is the National Repository Centre, created in 2011 by a Scottish shoulder surgeon, Angus Wallace, because he was "unhappy about...the principle of buying body parts from other countries". After a slow start (people were "very cautious") he eventually obtained the support of his hospital—and a relationship with a local frozen food delivery company ("Obviously they weren't allowed to transport body parts at the same time.") The pioneering Repository is the result.

Practically, what the Repository does is similar to American firms: it stores bodies, en masse, for surgeons who need them. The cost of British parts is (depending on currency movements) slightly lower than American ones: a head is £500; a leg £650. Just as in America, the cost of each part generally depends on its size: parts tend to be costed by the kilo rather than by any more emotional evaluation. A leg is pricier because it is bigger, says Steve Gill, an intensive-care consultant and the current head of the Repository.

But legally, and arguably ethically, Nottingham is different. The Repository (unlike many American firms) is not for profit and all its donors are just that—willing, first-person benefactors. Like America, it does not technically sell body parts. Instead, it merely loans them: when surgeons have finished with the parts they are sent back to Nottingham; each body is gathered together, cremated and given a committal service. And its transport costs are small by comparison: hundreds of pounds rather than thousands.

Speak to British medical professionals and they explain that they prefer to use the Repository because it feels more ethical. Yet there remains a hint of hard-headed commercialism. Another reason that British surgeons instantly preferred his Repository was, as Professor Wallace points out, because "we were cheaper". ■

The labour market

Growing hot and sticky

Wage growth, inflation and more place Britain's central bank in a spot

PARTS OF BRITAIN are growing uncomfortably hot. On June 13th the Met Office, a weather monitoring outfit, gave warning that large swathes of the country were officially in a heatwave. Data published the same day by the Office for National Statistics (ONS), keeper of other sorts of official figures, suggest that the labour market swelters, too: private-sector wages, excluding bonuses, were 7.6% higher than a year before. That was one of the fastest rates of growth of the past two decades—just shy of a headline inflation rate, including housing costs, of 7.8% in April.

Economists had expected wage growth to increase after the main minimum wage climbed by 9.7% at the start of April, from £9.50 ($12) an hour to £10.42. Pay rises were, however, concentrated in higher-paid sectors. Compared with last year, earnings in finance and business services were 9.2% higher while those working in hospitality or retail saw median pay rise by only 5.1%. The ONS has revised up its estimates of wage growth for all three months.

That is despite the Bank of England's efforts to chill the labour market. Companies' demand for workers, as measured by open vacancies, has lessened. But the economy still added 250,000 jobs in the last quarter and total working hours have at last exceeded their pre-pandemic level. Labour supply is recovering only gradually. Inactivity due to long-term sickness, meanwhile, has reached a record high. Following the publication of the figures Andrew Bailey, the central bank's governor, told the House of Lords that the recovery in activity was going "very slowly, frankly."

Traders expected that the bank will do more to dampen demand. The cost for the government to borrow for two years reached 4.9%, above its peak in the aftermath of the disastrous September 2022 mini-budget. That has a knock-on effect on homeowners, raising costs for anyone renewing or starting a mortgage. Moneyfacts, a data provider, says the cost of fixing a mortgage for five years has risen to 5.5% a year, up from 5% at the start of May. Circumstances this time are different. Unlike after the mini-budget, when the pound collapsed as traders took flight, the currency strengthened against the dollar, which should help bring inflation down. Rather than fretting about the soundness of the country's economic policy, traders reckon inflation is more stubborn and rates will rise further.

That will cause problems. The Office for Budget Responsibility, the fiscal watchdog, suggests that every percentage-point rise in interest rates reduces the amount the Treasury has to spend annually by £20bn. Since the chancellor, Jeremy Hunt, delivered his budget in March the cost of borrowing for ten years has risen by that much. He has little chance to cut taxes ahead of an election that is due next year.

Faster growth than expected may explain some of the stubborn inflation. It may also be that the bank's previous rate rises are having less effect than predicted. New mortgages may be far more expensive but fewer have them: according to the English Housing Survey, roughly 30% of homes were owned with a mortgage in 2022, compared with 56% in 1993. More of these mortgages are fixed for a few years, too. The central bank estimates that the effective rate on mortgages has increased by only 0.7 points, despite the central bank putting up rates by 4.4 points, since December 2021. It says higher mortgage costs have squeezed household consumption, in aggregate, by only 0.3%.

That makes the central bank's job harder. The effect of its previous rate rises will be felt more strongly over the coming months as more fixed-rate mortgages end. If the bank puts up rates again it could slow the economy more than it intends. Then again, if it delays then higher inflation could become more embedded. The Met Office warned that thunderstorms and flooding could follow the heatwave. Britons should hope a similar fate can still be avoided for the jobs market. ■

Young Lady of Threadneedle Street

Bagehot | De-realignment

When it comes to the north, Boris Johnson's political legacy has already disappeared

The death certificate for Boris Johnson's career in politics read June 12th. A government statement appeared that evening appointing Alexander Boris de Pfeffel Johnson as "Steward and Bailiff of the Three Hundreds of Chiltern", the title MPs accept, according to Britain's absurd constitution, in order to resign. He went because an inquiry into whether Mr Johnson deliberately misled Parliament found that he had. Not only that, he'd also impugned the investigating committee and joined a campaign of abuse and intimidation against it. Mr Johnson faced suspension as an MP for a remarkable 90 days. Given forewarning of the report, the former prime minister quit.

A funeral for Mr Johnson's career had taken place some days before in a stuffy conference centre in Doncaster. The annual meeting of the Northern Research Group (NRG), a cartel of northern Conservative MPs who owe their careers to Mr Johnson, was supposed to be a celebration. Instead it was a premature wake.

The miserable gathering was the best place to survey his political legacy. The NRG, rather than Britain's departure from the European Union, represented the apogee of Mr Johnson's political career. It emerged after the 2019 general election, when the party won an 87-seat majority under Mr Johnson as voters across northern England backed the Conservatives for the first time in living memory. In 2005, the Conservatives had 19 northern MPs. Then in 2019, they managed 68, with voters enticed by Mr Johnson's promise of nothing less than a realignment of British politics.

Now, however, the realignment has reversed. Conservatives are losing everywhere. But support is falling fastest in the northern constituencies the party was so proud of winning. Across the country Labour enjoys a 14-point poll lead. In "Red Wall" constituencies, this rises to 23 points, according to one pollster. In Doncaster, people knew it. When Bagehot made politely optimistic noises about the Conservatives' chances of recovery, a Tory MP looked at him as if he was insane.

Four years on, northern voters who backed the Tories have little to show for it. Conservative MPs were happy to give excuses. Sir Jake Berry, an acolyte of Mr Johnson (with the knighthood to show for it), took aim at the "blob"—the nickname for Whitehall civil servants. Sir Jake despaired that government spent more digging a single tunnel for HS2, a railway line from London to Birmingham, than it was prepared to spend on public transport to Bradford, England's tenth-biggest city. Curiously, the fact that it was his own party's doing went unmentioned.

Problems were more fundamental than mere faulty execution. Not for the first time in his life, Mr Johnson had made impossible promises. Voters in northern seats were offered four big pledges: higher spending, lower immigration, no new taxes and Brexit. They received one: Brexit. And by delivering it, the other three became much harder to achieve. Brexit has weighed on growth. This meant a government committed to cutting immigration instead had to boost it, to give the economy a hand. Meanwhile the grand schemes that Mr Johnson had promised, such as a new rail line between the north's main cities, were scrapped because of fiscal pressures worsened by Brexit. Taxes have crept up anyway.

Instead, MPs offered bromides that would be best left in an airport self-help book. "It's about being a victor, not a victim," said Nick Fletcher, the MP for Don Valley, a post-industrial constituency on the outskirts of Doncaster. It is an admirable sentiment, albeit one he will struggle to live by. According to polls, Labour has a 90% chance of retaking the seat. When in doubt, people fall back on the vague boosterism beloved of Mr Johnson. "Hands in the air if you think the north is awesome," pleaded one chairwoman at a fringe event, channelling a children's television presenter.

Any cause for optimism came, in the self-help vernacular, from a negative place. Voting Conservative for the first time was a big deal. "They want to be proven right," said Ben Houchen, the mayor for Tees Valley, a Johnson ally freshly ennobled in Mr Johnson's resignation honours list. Shy Tories have won elections for the Conservatives before. Now the party is banking on obstinate ones. Mostly, however, Conservatives are hoping that Labour screws up. "I guarantee Labour is going to shoot themselves in the foot," says the soon-to-be Lord Houchen.

Labour will have to lose because the Conservatives are not trying to win. The party is on defensive manoeuvres. That means placating voters in the south-east. In the latest budget, the government promised more money for child care, which is most unaffordable in the south-east. Likewise, pension reforms that let people snuffle away £60,000 per year tax-free were sold as a boost for surgeons, but will mainly go to bankers in Surrey. The Conservatives need to win voters in the north of England to hold power. The party needs to maintain voters in the south to exist.

I know it's over and it never really began

Rishi Sunak, Mr Johnson's successor, talks a good game when it comes to the north. He wears the fact he represents a northern seat rather heavily, labelling himself a "prime minister for the north". The seat is less Red Wall than dry-stone wall: his patch largely consists of two national parks. But the sweeping promises of Mr Johnson's era are gone. Prosaic achievements are heralded. There will be no new railway between the north's badly connected cities, but the Treasury has opened an office in Darlington, a town near Mr Sunak's constituency.

Instead, Mr Sunak's speech to the delegates in Doncaster became an accidental eulogy for the form of Conservativism that Mr Johnson personified in 2019 but which is dead today. "There is no route to electoral success without you," said Mr Sunak. He is right. It was meant to be a call to arms, but came across as an admission of defeat. Mr Johnson is gone. His main political achievement will not live on. ■

Europe

Ukraine

Going into hell

KHERSON AND ODESSA

The real test for the counter-offensive will come when it hits Russia's prepared defences

UKRAINE'S COUNTER-OFFENSIVE is now into its second week. Its shape is gradually becoming clearer. One long-standing axis points east, at the area around the bloodily contested town of Bakhmut and in Luhansk province. A new one aims south and south-east from Velyka Novosilka and Vuhledar in Donetsk province. And a third has opened in the south, where Ukrainian troops are battling their way south around the town of Orikhiv in Zaporizhia province, which forms the central part of the war's long front line. They are making progress. But neither side has committed its reserves and the most important fighting may not occur for another week or so.

The thrust in Donetsk appears so far to have been the most successful. Ukraine used seven brigades near Velyka Novosilka to liberate around 60 sq km of territory within four days, says Konrad Muzyka of Rochan Consulting, a firm that tracks the war. That included a cluster of villages hugging the Mokri Yaly river, including Blahodatne, liberated on June 11th; Storozheve, where video footage showed marines walking through the village and brandishing a Ukrainian flag in the centre; and Makarivka to the south. The tiny villages of Urozhaine and Staromaiorske may be next.

That progress contrasts with less encouraging news from another counter-offensive operation taking place farther south and west, in the Zaporizhia region. Full-frontal fighting along the Orikhiv-Tokmak axis there has been hard going, a military source conceded, with Ukraine taking significant losses of armour and personnel. Images published by Russia showed German Leopard tanks and American Bradley armoured vehicles caught in minefields and struck by artillery. One video showed a Russian soldier next to a Leopard with its engine still running. Russia is taking a bruising, too. In a meeting with Russian military bloggers on June 13th, Vladimir Putin, Russia's president, said that Russia had lost 54 tanks during the Ukrainian offensive. That figure far exceeds open-source estimates that are based on public numbers.

→ Also in this section

26 After Berlusconi

27 Germany's strategy review

28 Europe's struggling Left

30 Charlemagne: Fixing asylum rules

The scale of the deployment along the Tokmak axis—and the town's strategic role as both a rail hub and a gateway to strike at Russia's main road to Crimea—suggest that it might grow into the main push. But most of the attacks so far have been conducted with Ukrainian units that were already in place and are aimed at identifying weaknesses in the Russian line, rather than breaking through with overwhelming force. "The offensive has clearly started, but not I think the main attack," notes Ben Hodges, a retired general who commanded America's army in Europe. "When we see large, armoured formations join the assault, then I think we'll know the main attack has really begun."

Ukraine is thought to have thrown in only a few brigades in Zaporizhia so far. "We haven't committed our main forces," agrees a source in Ukraine's general staff, "and the Russians haven't committed their main forces." Russia is mounting what military officers call a defence in depth: falling back to more favourable ground to

▶▶

the rear. Both sides are involved in a "chess game" to draw out each others' reserves, says the source. He adds that Ukraine's "immediate priority" is reducing Russian superiority in artillery by targeting its batteries with long-range fire. *The Economist*'s analysis of data from NASA's infrared satellites shows unusually intense fire activity across southern Ukraine. Russian military bloggers reported that one strike had killed Major General Sergei Goryachev, the chief of staff of Russia's 35th Combined Arms Army—the first Russian general to die for a year.

Aviation is playing an important role. More of it is now being used in the Zaporizhia sector than has been deployed at any time since the opening stages of the war. Russian attack helicopters are proving a particular hazard. Samuel Bendett of CNA, a think-tank, notes that Russian military bloggers are boasting of a new tactic: Russian air strikes are forcing Ukraine to push its scarce air-defence systems farther forward. Those systems can then be struck by Russia's Lancet attack drones and their operators targeted by Russian snipers.

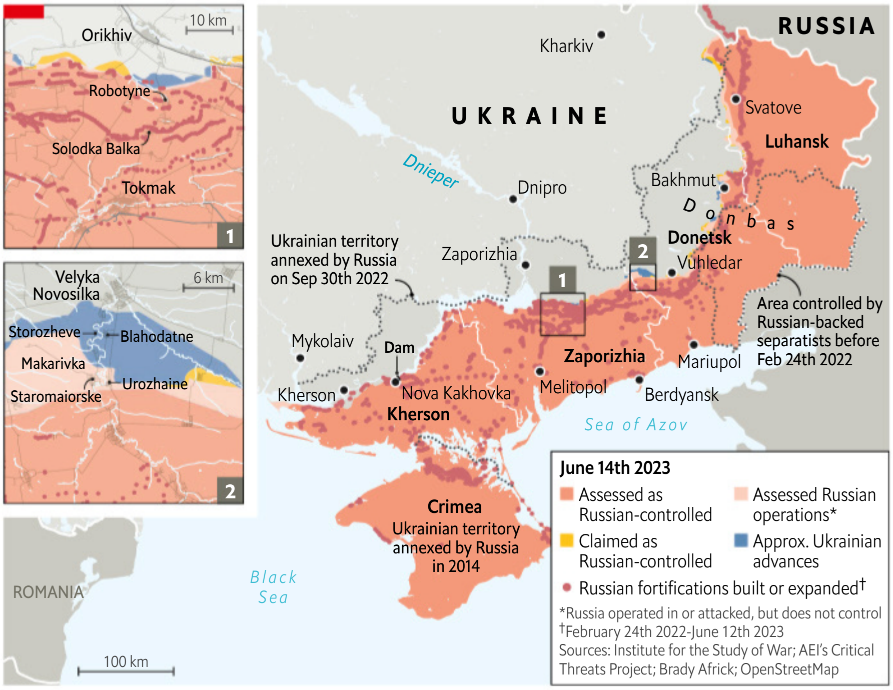
Denys Yaroslavsky, a special-forces officer fighting north of Bakhmut, reports a big increase in the use of drones there. Apart from Lancet strike drones, capable of destroying tanks and artillery systems, Russian forces have acquired significant numbers of commercial Chinese drones, he says. Mr Yaroslavsky is confident that Ukraine will continue to close the circle around Bakhmut. "It's hard going, but we are moving constantly. Within a week we will have the high ground...and Bakhmut in the palm of our hands." Ukrainian attacks in the east are probably intended to "fix" Russian positions there in place, preventing them from reinforcing the south.

One unexpected variable could be the situation in the flooded plains of Kherson. The collapse of the Nova Kakhovka dam on June 6th created a humanitarian disaster. It also upended Ukrainian plans. The destruction of the bridge alongside the dam has allowed Russia to shift some units from Kherson to Zaporizhia—one possible motivation for the dam's destruction. Its collapse almost certainly puts an end to any crossing by heavy weaponry. That said, Ukrainian military sources hint at a different type of operation. Flooding has washed away Russian defences on the eastern side of the Dnieper, one says, and that has created opportunities. "The conditions are arguably better for a limited assault using speedboats and special forces," says another. The satellite data suggests that Ukraine is heavily pounding Russian positions across the river from Kherson city.

Western officials say that on paper Ukraine has what it needs to make significant advances; enough to put Russian overland routes to Crimea within its rocket range, and Russian shipping in the Sea of Azov within range of its anti-ship cruise missiles. But they say that this will require luck on the part of the Ukrainians and blunders on the part of the Russians. Nature could also play a part. Rain is predicted for much of the next week, which may delay some of Ukraine's advances, while also making Russian air operations and reconnaissance more difficult. The biggest risk, say officials, is Ukrainian units becoming caught in Russian "fire pockets"—patches of territory covered by Russian drones and artillery—as they breach defences, which include several lines of trenches, fortifications and minefields.

Those defences are unlikely to be tested until around the last week of June, say officials tracking the fighting. Despite Ukraine's advance south from Velyka Novosilka in Donetsk, it is still around 20km away, by road, to the first serious line of prepared Russian defences. In Zaporizhia, the town of Robotyne, which probably marks the farthest extent of Ukraine's advance, is still 10km away from the east-west defences that cut through the villages of Ilchenkove and Solodka Balka to the south. Tokmak, ringed by its own dedicated defences, is then another 20km away.

"All I know is it's going to plan," said Ben Wallace, Britain's defence secretary, on June 13th. "They're being successful, they've maintained momentum." Jack Watling of RUSI, a think-tank, agrees: "They are beating expectations." But the real test is to come, says a Western official. "They are about to go into hell." ■


Orikhiv
10 km
Robotyne
Solodka Balka
Tokmak
1
Velyka Novosilka
6 km
Storozheve
Blahodatne
Makarivka
Urozhaine
Staromaiorske
2
Kharkiv
RUSSIA
UKRAINE
Svatove
Luhansk
Dnieper
Dnipro
Bakhmut
Donbas
Donetsk
Vuhledar
Zaporizhia
Ukrainian territory annexed by Russia on Sep 30th 2022
1
2
Area controlled by Russian-backed separatists before Feb 24th 2022
Mykolaiv
Dam
Zaporizhia
Mariupol
Melitopol
Kherson
Nova Kakhovka
Kherson
Berdyansk
Sea of Azov
Crimea
Ukrainian territory annexed by Russia in 2014
ROMANIA
Black Sea
100 km
June 14th 2023
🟥 Assessed as Russian-controlled
🟥 Assessed Russian operations*
🟨 Claimed as Russian-controlled
🟦 Approx. Ukrainian advances
● Russian fortifications built or expanded†

*Russia operated in or attacked, but does not control
†February 24th 2022-June 12th 2023
Sources: Institute for the Study of War; AEI's Critical Threats Project; Brady Africk; OpenStreetMap

---

Italy

After Berlusconi

ROME

The four-time prime minister leaves problems behind him

Silvio Berlusconi had a political career of rare longevity. He first became prime minister in 1994, when Helmut Kohl, François Mitterrand and others who have long since passed into history led Europe's powerhouses. Almost 30 years later, he still headed a party with significant parliamentary representation, having come and gone as prime minister in four administrations. His death on June 12th will thus inevitably alter Italy's political landscape. The likelihood is that the changes will benefit Italy's current prime minister, Giorgia Meloni. But not without exposing her to new risks.

Most obviously, Mr Berlusconi's departure from politics removes a source of intermittent, though acute, discomfort. Italy's longest-serving post-war prime minister had an ego of pharaonic dimensions. He never truly reconciled himself to the fact that, following last year's general election, his party, Forza Italia, had become part of a coalition government in which, for the first time, he was not the leader. Even before Ms Meloni took up her new post in October, he had embarrassed her by slyly making public a list of characteristics—"patronising, bossy, arrogant and offensive"—that he later, and unconvincingly, denied were hers.

As the new leader strove to convince Italy's allies that her government stood with

Italy's showman at rest

Ukraine, Mr Berlusconi not only alluded to his friendship with Vladimir Putin but backed his version of events there (on hearing of his death, Mr Putin again embarrassed Ms Meloni by lauding him as a "dear person").

Though much diminished, Forza Italia is still decisive for the government's control of legislation. It occupies 44 seats in the 400-member lower house, where the governing coalition has a 38-seat outright majority, and 17 of the 206 seats in the Senate, where Ms Meloni's majority is 15. But the latest polls give it an average of just 7.3% of the vote. And it has reportedly amassed debts, guaranteed by Mr Berlusconi, of €90m ($97m). His heirs may be less keen to underwrite them.

Hence another striking reaction to the former prime minister's death, from Gianfranco Micciché, who served as a minister in one of his governments. "As of today," he opined, "Forza Italia no longer exists." He may be right. Without its charismatic leader, the party will almost certainly fragment and could even disappear.

Mr Berlusconi's later years were lived in a context reminiscent of the court of a medieval sultan—harem included. Like many an absolute ruler, his towering self-esteem prevented him from ever naming a successor. And the cast of players he leaves behind would be only too familiar to the denizens of an Ottoman palace.

It includes a favoured, and ambitious, "wife", the mysterious, taciturn Marta Fascina, a young Forza Italia lawmaker who "symbolically married" Mr Berlusconi last year in a ceremony that had all of the trappings of a wedding but no civil or religious validity. There is also an ousted rival, Licia Ronzulli, another Forza Italia parliamentarian who formerly ruled Mr Berlusconi's inner circle of hangers-on; and the vizier-like Antonio Tajani, a former European commissioner and president of the European Parliament, who now serves as Italy's foreign minister and deputy prime minister in Ms Meloni's government.

What impact all this will have on a party abuzz with rumours of conspiracy remains unclear. But the biggest threat to Ms Meloni is that some of Mr Berlusconi's followers could join the opposition, eroding her majority. There is a precedent. Rather than join a coalition dominated by her hard-right Brothers of Italy (FdI) party, two prominent Forza Italia liberals defected to a centrist party.

Another potential exit route leads to the Northern League, the second-largest party in Ms Meloni's coalition. But, like Forza Italia, the League has been severely weakened by the rise of the Brothers. It is the FdI which represents by far the most promising alternative for Forza lawmakers in need of a new home—and especially those seeking a post in government.

The most likely outcome is thus a reinforcement of the Brothers' ascendancy. That would doubtless be welcome to Ms Meloni. But what is less obvious is whether she would stand to benefit from Forza Italia's wholesale disintegration. The style and methods of Forza's founder anticipated those of many of today's right-wing populists. But it has never been as radical or consistently Eurosceptical as its allies.

Without it, Ms Meloni's coalition would be incontrovertibly aligned with the radical, identitarian right, undermining her efforts to portray her government to Italy's allies as representative of a harmless "Latin conservatism". In the weeks ahead, Ms Meloni may have cause to reflect that you can get too much of a good thing. ■

Germany

Big words

BERLIN

A new national security strategy is strong on goals, less so on means

The Danes do it. The Dutch do it. Even Jamaica, Honduras and Papua New Guinea regularly state the formal goals of their defence and foreign policies. And so now does Germany. Long squeamish about flexing its muscles despite being the world's fourth-biggest economy and a pillar of European stability, the country bit the bullet on June 14th and launched its first-ever national security strategy.

The 76-page document, meant to bring coherence and a sense of purpose across the breadth of government, does not make for exciting reading. Predictably, it stresses Germany's deep commitment to the European Union and to NATO, as well as relationships with key partners such as America and France. Understandably, it fingers Russia as "the most serious threat to peace and security in the Euro-Atlantic area". And somewhat daringly for a country whose biggest businesses depend heavily on trade with China, it does not shy away from blaming the Asian dragon for "acting time and again counter to our interests and values", though it insists that China "remains a partner without whom many challenges and crises cannot be resolved."

Yet while the strategy usefully clarifies Germany's perceptions and goals, it is less clear about whens and hows. Almost a decade ago, for instance, Germany joined other NATO members in pledging to boost

Integrierte Sicherheit für Deutschland

Is that it?

defence spending to 2% of GDP. In the face of Russia's invasion of Ukraine, the gravest threat to European security since the end of the cold war, and in the unwonted light this has cast on the woeful state of Germany's own army, the strategy paper does no more than restate the same promise. It hedges a bit, too, adding that 2% should be a multi-year average and that the government would strive to implement this "at no additional cost to the federal budget".

At the press conference that accompanied the policy document's launch Christian Lindner, the finance minister, carefully explained that for at least the next few years the 2% goal would be made up not from the regular budget but via top-ups from a temporary €100bn ($109bn) special fund. In other words, it will be up to some future government to commit to permanently bolster Germany's shrunken armed forces. "No party would agree to cuts in welfare to spare more for defence," comments Thorsten Benner of the Global Public Policy Institute, a Berlin think-tank. "This question is just being kicked down the road."

The strategy also lacks what some had hoped would be a key component, the creation of a body with implementing power akin to America's National Security Council. This idea, say insiders, fell victim to wrangling inside the ruling three-party coalition as the foreign ministry, currently held by the Green party, resisted ceding influence to the Social Democrat-headed chancellor's office, where such a council would logically be housed.

The national security strategy's slogan—"Robust, Resilient, Sustainable"—is also a reflection of coalition politics. Short on specifics about defence, the document touches necessary notes of budget probity for Mr Lindner's liberal Free Democrats, as well as of commitment to climate-change goals for the Greens. More important than the wording of the document, however, is the fact that it was written at all.

Since its resurrection as a Federal Republic on the ashes of the second world war, Germany has flinched from bold stands. After reunification in 1990, caution was replaced by complacency. Prosperity seemed assured under a trinity of blessings: American security, cheap Russian energy and a growing Chinese market. Even before Russia smashed into Ukraine last year, however, it was clear that the good times could not last. When the current coalition was elected in 2021, its pledge to issue a national security strategy was meant as a signal that it understood the growing precariousness of Germany's situation. The biggest perceived danger then, however, was of America drifting into Trumpian isolation. Yet even though Trumpian isolation is hardly a spent force, it merits nary a mention in the review. ■

La France insoumise

Western Europe's left

Progressive disease

AMSTERDAM AND PARIS

The left is losing elections, and lacks a compelling vision for the future

DE BALIE, A cosily chic cultural venue on Amsterdam's Leidseplein, is the epicentre of Dutch liberal intellectual life. On May 3rd it played host to two thinkers representing ideas that are pulling the European left apart. Gloria Wekker is a black Dutch academic who argues that the Netherlands suffers from structural racism. Susan Neiman, an American-born German-Jewish philosopher, recently published a book ("Left Is Not Woke") that calls for dropping identity politics and re-embracing universal values. The left, Ms Neiman says, must "come up with things that we're moving towards", rather than simply denouncing taxonomies of oppression.

Like many debates on the left, this one took place inside a bubble. Amsterdam is a multicultural city of cycling lanes and tolerant drug policies, run by a coalition of liberal (D66) and left-wing parties (Labour and GreenLeft). But in the rest of the Netherlands, politics has been transformed by anti-immigrant populism. In provincial elections on March 15th, populist parties on the right combined for more than a third of the national vote. The BoerBurgerBeweging (Farmer-Citizen Movement), a four-year-old outfit mainly devoted to fighting environmental regulations, drew 19%. On the left, Labour got just 8% and GreenLeft 9%.

The Dutch left's problems are echoed across western Europe. (Eastern Europe's leftist parties, descended from the Soviet-era communists, face different problems.) Social-democratic parties are in decline; voters see them as mushy and elitist. They face competition from green parties, and from radical outfits that offer socialist economics or woke politics. All are fighting over a shrinking pie, hemmed in by conservative populism. Most of the left faces the problem Ms Neiman identified: the lack of a credible vision.

This should be a propitious time for Europe's left. Inflation is fuelling calls for more government benefits. Surveys show citizens are more concerned with climate change and the cost of living than with crime. Antipathy to the EU has faded since the 2010s. Belief in small government, declining since the financial crisis, was all but killed off by the covid pandemic. A recent study of six European countries by pollsters André Krouwel and Yordan Kutiyski found that big majorities everywhere agreed that "the state should play a larger role in the regulation of the economy."

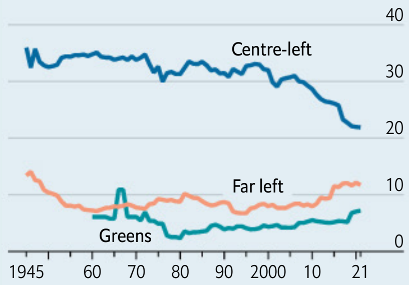
Indeed, the left looked healthy as recently as 2021, when it governed all four Nordic countries as well as Portugal and Spain. At the end of that year Olaf Scholz's Social Democrats (SPD) took power in Germany in coalition with the Greens and the liberal Free Democrats. But the moment proved fleeting. In France's elections in 2022 the centre-left Socialists were all but wiped out. Hard-right parties now hold or share power in Italy and Sweden, and in Finland are in coalition negotiations. The centre-right seems poised to keep power in Greece, where leftist parties performed woefully in a general election on May 21st. Spain's Socialists are heading into an early election they look likely to lose. In Germany Mr Scholz's coalition is divided and increasingly unpopular.

The left's problems start with the once-great social democratic parties. In the early 2000s in western Europe they averaged nearly 30% of the vote. They have declined steadily since the global financial crisis in 2008, to just above 20% (see chart). Having embraced free-market economics during the "Third Way" period of the 1990s, most centre-left parties endorsed fiscal austerity after the financial crisis. That was a huge mistake, argues Björn Bremer of the Max Planck Institute in Cologne: voters could no longer see the difference between the centre-left and the centre-right.

In some countries that has led to collapse. France's Socialists governed indecisively from 2012-17, and when Emmanuel Macron founded his own movement to run for president he took many centrists with him. The party's image has since become "gaseous and unfocused", says one former Socialist politician. Its candidate won just 2% in last year's presidential election. The Dutch Labour Party, meanwhile, joined the centre-right in government between 2012 and 2017, sharing responsibility for budget cuts. In the 2017 election it fell from 25% of the vote to 6%, and did little better in 2021. Such parties are now too centrist to offer an alternative, and too small for voters to believe they can win.

Centre-left outfits like Germany's SPD are still big enough for voters to see them as contenders. In Spain and Portugal, Socialist governments have managed to hold power, buoyed by solid economies. Italy's colourless Democratic Party is still the second-biggest in parliament. Finland's Social Democrats, led by Sanna Marin, the outgoing prime minister (pictured), came close to winning their latest election, as did Sweden's. But their voter bases are ageing. Sweden's centre-left is "incredibly unpopular among young people", says Max Jerneck of the Stockholm School of Economics. "The zeitgeist is against them."

Voters dissatisfied with milquetoast social democrats often turn to more radical parties. Take France, where leadership on the left has passed to La France Insoumise ("Unsubmissive France", or LFI), a hardline outfit that aims to resurrect the working-class left of yore. In a café near the National Assembly filled with MPs in business suits, François Ruffin, one of LFI's up-and-coming deputies, is the only one wearing a leather jacket. He lays out his plan to end the "neo-liberal parenthesis" which François Mitterrand, a Socialist president, launched 40 years ago by privatising state enterprises and deregulating financial markets. Mr Ruffin calls for protectionism and indexing state workers' wages to inflation.



Shifting and shrinking

Western Europe*, left-wing parties' vote share, %

Source: "Who still likes social democracy? The support base of social democratic parties reconsidered", by B. Bremer & L. Rennwald, *Party Politics*, May 2022 *18 selected countries

LFI's vintage socialism and its 71-year-old leader, Jean-Luc Mélenchon, are surprisingly popular among young people. The wounded Socialists have joined LFI and France's often feckless Greens in an alliance called NUPES, which forms the biggest opposition bloc in parliament. But although NUPES's rejectionism gives it a clear profile, it makes it impossible to win a majority or join a broad coalition.

Italy's Democratic Party (PD) seems to be imitating the French turn to the left. In February it elected a young left-wing leader, Elly Schlein, who takes progressive stances on gay rights and immigration. She is seen as a breath of fresh air, and the PD is doing better in polls. But Italy's left, too, is split: many left-leaning voters back the unpredictable, populist Five Star Movement.

The party's over for Sanna Marin

Tensions with the radicals could spell the end of centre-left rule in Spain as well. Pedro Sánchez, the Socialist prime minister, has just called a snap election, in which he faces a challenge from a new leftist outfit called Sumar. The radical left elsewhere is doing poorly; Syriza, a far-left party that botched Greece's response to the euro crisis while in power between 2015-19, was crushed in that country's election on May 21st. Portugal's long-sitting Socialist government has successfully teamed up with radicals, but it too is losing popularity.

Green parties, at least, have a clear vision of the future. Many leftists hope they will take over from social democrats and lead a national revival. But only in Germany has a green party come close to doing so. The German Greens did well in 2021, but have been badly damaged since by high energy prices and new rules mandating heat pumps in private homes. As the costs of the zero-carbon transition come due, voters are starting to rebel.

If not environmentalism, then what? Ideas about intersectional social justice that enthuse progressive Americans are less popular in Europe. They evoke thorny problems of integration, which since the migrant crisis of 2015-16 have been seen as vote losers. Some look to Denmark's governing Social Democrats as a model. They have turned to punitive anti-immigrant policies. But studies show that imitating the right's harshness towards immigrants does not win back voters for the left. At most, says Tarik Abou-Chadi of Oxford University, it discourages low-engagement voters from turning out.

A decade ago, when interest rates were negative and unemployment was high, Europe seemed ripe for a revival of Keynesian economics. Thinkers like Thomas Piketty, a French economist, argued for government stimulus to reduce inequality and pay for the green-energy transition. But few governments seized the moment. Nowadays leftist parties offering more government spending face two problems.

The first is that with much higher inflation, interest rates and debt, they no longer have fiscal room. The second is that on state intervention they have won the argument. Nearly everyone in European politics, from right to left, now accepts that governments must play a big role in the economy. That makes it hard for leftist parties to stand out.

Optimistic progressives note that Europe's centre-right is having difficulties, too. Yet the best argument that the western European left is not in crisis may be that it was never as strong as many imagined. Since 1960, outside the Nordic countries and Iberia, the right has held power far more often than the left. To remain a contender, the left will have to reinvent itself. The question is how. ■

Charlemagne | The insane asylum policy, rebooted

Migration rules in Europe are getting a much-needed overhaul

If there is one thing Europeans like more than August off and coalition governments, it is a half-baked EU project. The euro brought much of the continent into a currency union, which ended up causing endless division when it turned out the requisite plumbing had not been installed. The single market is a triumph for goods like cars and widgets, but works poorly for the services that now dominate the economy. Migration has long been another will-complete-*mañana* policy. Internal borders were scrapped within most of the bloc almost 30 years ago. But the messy business of how to deal with the external border—and the hundreds of thousands who cross it illegally year after year—was given too little thought. The upshot has been a chaotic asylum system, leaving thousands dead in the Mediterranean each year and fuelling the rise of populist politicians. At last a stab has been made at completing the job. And, of course, nobody is happy.

Europe is a magnet for migrants, being rich and easy to reach by lots of people from war-torn (or poor) places in Africa and the Middle East. Some migrants who enter on small boats or overland are entitled to asylum because they are fleeing persecution; but well over half of the arrivals are not. Many land in societies that have done a bad job of integrating previous waves of foreigners, often from past colonies. The system can be kind: a surge of some 4m or so Ukrainians fled to EU countries with few problems. More often it is dysfunctional, turning an emotive policy area into one where everyone casts blame widely but accepts none.

As often happens, the tangle of EU and national rules has left a mess (this will be familiar to those who recall how avidly national governments ignored EU budget strictures ahead of the euro crisis a decade ago). The corollary of internal borders being scrapped in 1995 as part of the Schengen agreement was that migration failures in one country—for example a leaky external border—would affect others in the passport-free zone. To ensure that governments properly guarded their frontiers with non-EU places, migrants crossing into the bloc illegally were to be processed by the country in which they had first set foot. Known as the Dublin convention, this placed huge burdens on front-line places such as Greece and Italy. Countries such as Sweden or Germany—where most migrants had hoped to settle—were able to send migrants who reached them back to where they first arrived.

This was manageable when flows were light. But in the 2010s the numbers spiked as a result of the Arab spring, war in Syria and chaos in Afghanistan. Mediterranean countries demanded help from their EU neighbours. None was forthcoming, notably because what was really needed was for countries to agree to take in migrants themselves, besides those—numbering more than 1m—who settled in Germany in an intense wave of arrivals in 2015-16. An attempt then at a new migration deal descended into acrimony that still endures. Several countries in central Europe simply refused to take in any asylum-seekers, denouncing EU plans to foist mass immigration on an unwilling populace. And thus the system all but broke down. Southern countries sometimes did little to intercept migrants, or treated them so nastily that northern authorities balked at sending them back. Schengen, one of the EU's signature achievements, has teetered: six countries, including France and Germany, have restricted passport-free travel.

Things might now change as a result of an unexpected deal between EU governments on June 8th. For the first time an element of "mandatory solidarity" will apply. Countries beyond the front lines of migration will have to take in at least 30,000 asylum-seekers a year; those who refuse will have to pay €20,000 ($21,600) per migrant into an EU fund. This will ease the burden on Italy and others. In return, the front-line countries will have to host camps in which some migrants' asylum claims will be processed—so confirming their status as border guards for the whole EU, a role they resent. Europe will throw money at the root causes of migration. A delegation of EU leaders including Giorgia Meloni of Italy has just been in Tunisia with a promise of financial aid, in the hope of curbing migration if the fragile country collapses.

Why, after so many years of acrimony, has an agreement suddenly become possible? Vit Novotny of the Wilfried Martens Centre, a think-tank in Brussels, says it is because the EU has gained experience in managing big, emotive crises, such as the pandemic, the war in Ukraine and climate change. In part, lessons have been learned from past failures, such as to give a way out for countries that refuse to take migrants. But the mood around migration has changed too. A buoyant labour market means migrants, legal or otherwise, are needed to staff factories and deliver pizzas.

Barriers to entry

Having shown generosity towards Ukrainians, Europeans are comfortable giving shorter shrift to others from the rest of the world. The mooted migration deal was possible in part because Europe is happier than before to be tough on those who reach its shores. Some migrants, for example those whose countries are not notably dangerous, will be sent back after a cursory check of their asylum claims, and could end up deported to countries far from their own. Human-rights groups are unhappy. The EU now talks openly of withholding aid or nixing trade deals with poor countries if they do not help with migration, for example by taking back failed asylum-seekers (currently, fewer than one in five of those denied asylum are successfully deported).

Migration is Europe's Achilles heel. A place that sees itself as a force for good in the world resents having to play bad cop when it comes to keeping people out, as it must. But refusal to face up to the dysfunction of the old system has served nobody well. The agreement between governments still has some way to go before it becomes EU law—by the end of the year, it is hoped. An imperfect system that works will be better than a bad one that doesn't. ■

America's new industrial geography

Southern shift

ELIZABETHTOWN, KENTUCKY

Joe Biden has sparked a manufacturing boom nationally, but nowhere more than in the South

REBUILDING AMERICA'S ECONOMY

In popular perception America's industrial heartland is its Midwest. Just look at where President Joe Biden has travelled for many of his big made-in-America speeches: Ohio thrice, Michigan twice and Wisconsin. (These, helpfully, are also political battleground states.) But look at where the money is flowing, and a different picture emerges. It is the South—a region running from Texas to Virginia—that is fast becoming America's new industrial heartland (see map on next page).

The shifting of American factories has been years in the making. When Japanese and German carmakers started production in America in the 1980s and 1990s, most chose the South. They were attracted by a dearth of unions and generous subsidies. Nissan went to Tennessee, Toyota to Kentucky, Mercedes-Benz to Alabama and BMW to South Carolina. In 1985 the Midwest had 1.25 workers making durable goods such as cars and electronics for each one in the South, according to the Department of Labour. By 2021 the South had just about drawn even (see chart on next page).

What stands out now is the pace of change. The industrial policies crafted by Mr Biden's administration—notably, incentives and rules to boost the production of semiconductors, renewable energy and electric-vehicles (EVs)—have catalysed a surge in investment, much of it in the South. S&P Global Market Intelligence, an analytics company, calculates that about two-thirds of planned EV jobs will be there. The White House keeps a tally of investments in "21st-century industries" since Mr Biden took office: the South has received more than twice as many as the Midwest. The Midwest is getting plenty of new factories, too. It is just that the balance has tilted southward.

For a glimpse, visit the once-sleepy fields of south Hardin County in Kentucky. New high-voltage lines run to a giant lot where thousands of construction workers have already completed the grey carapace of one warehouse-like building and are busily putting up a second. It is a 1,500-acre supersite—roughly equivalent to about 1,140 American-football fields—given in 2021 to Ford and SK, a South Korean industrial group, for an EV battery joint venture.

For Rick Games, president of a local development office, it is a sweet reward for two decades of patience. Hardin County has sat on the plot since 2002, making sure it was connected to highways, railways, power and water supplies, but waiting for the right buyer. "There were maybe three or four semi-serious inquiries for nearly two decades," but then from around 2020 "things just started going crazy," he says. "The phone was ringing off the hook and I started showing the site once or twice a month." The venture, known as BlueOval SK, expects to invest nearly $6bn and to employ some 5,000 people—making it, at a stroke, the biggest business in the county.

The availability of big land plots is a crucial part of the South's recipe for success. Nathan Niese of BCG, a consultancy, says the region's officials were ahead of the

→ Also in this section

32 ChatGPT in schools
33 The Pride backlash
34 Paying for buses and trains
34 Feral parakeets
35 Pacific strategy
36 Lexington: Carolina in their minds

curve. "They have been focused from the beginning on the ease of doing business. They have well-prepared megasites, and within 24 hours of a request can get full details about them into your hands," he says. Georgia started a programme to pre-certify industrial sites, setting them up for fast-track construction, in 2008. Tennessee launched a similar initiative in 2012. In the Midwest, Ohio was similarly proactive, but others have been slower: Michigan passed site-readiness legislation in 2021; Illinois founded a megasite-investment programme just a few months ago.

The absence of a century-old carmaking legacy in the South also means that its officials have had a freer hand in luring firms across a range of industries, from chemicals to batteries and plastics. "We have a good diverse portfolio thanks to the fact that we were once such an agrarian state," says Jeff Noel, secretary of Kentucky's cabinet for economic development.

The South has other selling points, too. It has cheap power, critical to battery factories that use vast amounts of energy. Of the ten regions monitored by the Energy Information Administration, a government agency, the "east south central", including Kentucky and Tennessee, has the least expensive power in America, at about six cents per kilowatt hour, nearly 20% cheaper than power in the Midwest.

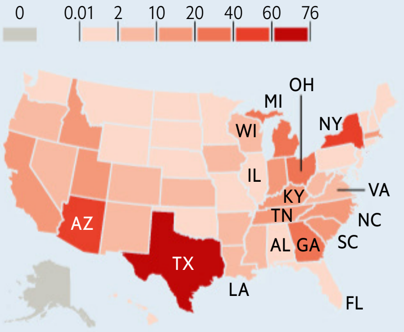
Awkwardly for companies aiming for greener growth, that cost advantage is predicated on the south-east's continued reliance on coal: Kentucky, for example, generates about 70% of its electricity from coal, the fourth-highest share of any state. It is adding more renewables to its mix, though progress is slow. "The fundamental reality is that today, coal-fired facilities are delivering reliable, efficient electricity," says Mr Noel.

The relative lack of unions in the South is less compelling than it once was. Just 6% of America's private-sector workers were union members in 2022. But workers come into the equation in another way: firms have a bigger pool of potential labour in the South. Texas has attracted more new residents than any other state in recent years; Georgia, Tennessee and the Carolinas have also been magnets. State investments in worker training make this migration even more potent. A ranking of workforce programmes by *Area Development*, a site-selection magazine, is telling: in 2022 its top five were Georgia, Virginia, South Carolina, Alabama and Louisiana. Alabama, for example, offers free specialised technical training to both firms and jobseekers.

Made in America

Investments in 21st-century manufacturing*, $bn

January 2021-June 2023



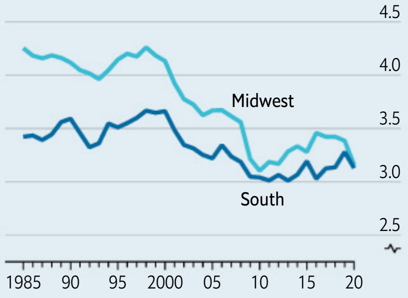
*Semiconductors, electric vehicles and batteries, clean energy, biomanufacturing

Source: The White House

Dead heat for the heartland

United States, manufacturing employees, m

By region



Source: Bureau of Labour Statistics

Geographical advantages play out differently depending on the sector. For EVs many companies aim to be near the I-75 interstate highway, which runs from Ontario through the Midwest and the South, and down Florida's Gulf coast. It puts most suppliers and many customers within a day's drive. The south-west, and specifically Arizona, has become the preferred destination for semiconductor manufacturers, thanks to its cheap land and stable geology.

Might the South's manufacturing boom have political consequences? The investment surge resulting in part from Mr Biden's policies so far looks like the opposite of pork-barrel politics: most of the money has gone to places that do not favour him. According to a database of EV investments announced in the 300 days since the passage of the Inflation Reduction Act, Mr Biden's clean-tech law, more than 80% has gone to Republican-controlled districts. Could the presence of more manufacturing—an industry once aligned with Democrats—move their politics leftward? Perhaps. But as factories become less labour-intensive, their political weight may well diminish. Robots do not vote.

Still, an increase in manufacturing may reshape political priorities in other ways. Susan Elkington, president of Toyota's Kentucky plant in Georgetown, notes how companies there are struggling to find enough workers—a national concern that is especially acute in factory towns. One solution is to lure more women into work: in Kentucky only 53% are in the labour force, among the lowest rates in the country. That, in turn, points to a need for more child care. Toyota provides onsite day care for its employees, but many workers elsewhere struggle to get similar support. "It's difficult to find quality child care, and then it is difficult to afford it," says Ms Elkington. State funding for child care is an objective which Mr Biden failed to enshrine in law, but manufacturers may yet push it to the fore at the state and local level.

For now such challenges are not getting in Toyota's way. On May 31st it announced that it will produce its first American-made electric vehicle—a three-row SUV—at its factory in Georgetown. These cars are likely to hit the road in a couple of years, with batteries from a new plant in North Carolina. It is a $600m investment in Kentucky, but it barely made a ripple in national media. That is testament to how far the South has come. In 1986 Toyota's decision to pick Kentucky as a factory hub was groundbreaking; in 2023 it seemed an obvious choice. The South is no longer a manufacturing upstart. Instead it looks more like the incumbent power. ■

AI and schools

Teacher's pet

WASHINGTON, DC

How ChatGPT could help teachers and lower the cost of college

Many have mused on how ChatGPT could change the world, not least schools. Plenty fear the worst. The college essay has been pronounced dead. ChatGPT is causing an educational "crisis", claims *Inside Higher Ed*. Maybe so; but ChatGPT could also be a teacher's friend.

It is easier to see the threat. Users can ask ChatGPT to compare Milton Friedman with Paul Samuelson, and it will create a five-point summary that contrasts their views. Ask it to create a rap about Friedman, and it delivers lines like: "He was an economist with a unique vision / Spittin' truth about free markets with precision". This sophistication and creativity worries lots of teachers and schools. New York City public schools, America's largest school district, banned ChatGPT in January, only to reverse the decision in May. Some universities abroad have banned its use.

"Initially…everybody was thinking that the sky was falling," says Jonathan Torres, an assistant professor of English at Quinnipiac University in Connecticut. He also trains teachers at Quinnipiac, and argues that AI can push them to become better. For example, before ChatGPT came along, an economics teacher might ask pupils to write an essay describing Keynesianism. With ChatGPT as an option, the teacher might ask the students to assess and revise the chatbot's response to the same question—a more difficult task. AIs have other practical uses for teachers. They can help write lesson plans and worksheets at different reading levels and even in different languages. They can also cut down the time spent on duties, such as writing recommendation letters, that devour time that could be spent teaching.

Some organisations are going even further. Khan Academy, an education nonprofit, recently launched a pilot of Khanmigo, its virtual guide that uses GPT-4, the latest upgrade of ChatGPT, to support pupils and teachers. If pupils gets a wrong answer to a maths problem, the chatbot helps them solve it on their own. In science, the program evaluates open-ended questions. In English class, it asks pupils questions about their essays. And in history, a pupil can debate with the bot to prepare for an in-class discussion.

The program provides teachers with a report on their pupils' activities. Khanmigo can help teachers create lessons and test pupils' knowledge afterwards. It can support pupils in different languages. It even allows pupils to "talk" to historical figures or literary characters via simulations. "This gives us the opportunity to give every student a one-on-one tutor, every teacher a teaching assistant, and more," says Sal Khan, the founder of Khan Academy.

For those in charge of school and college administrations the benefits are, if anything, clearer. David Harris, president of Union College, a liberal-arts college in New York state, decided to play around with ChatGPT. He asked it to write a letter announcing that the college would no longer require the covid-19 booster jab after the spring term. The results were good enough for him to show examples to each of his senior staff—a letter to students about changing the campus mascot for his communications director, an Instagram post for campus photos on spring break, a final warning for an employee with chronic lateness for human resources.

Dr Harris is excited about what all this could mean for college costs. Many universities, including Union College, Stanford University and others, will charge about $80,000 a year next year for tuition, room and board. In 2021 the median household income in America was $71,000. College administration in America has become bloated. AI could eliminate the need for some of these jobs, and maybe enable colleges to pass savings on to students. ChatGPT may have killed the college essay, but with all its potential in and out of the classroom, perhaps that is OK. ■

Activism

Pride/prejudice

LOS ANGELES

A backlash against gay-pride festivities is rooted in gender-identity politics

IT IS NOT your average group of nuns. In fact, the Sisters of Perpetual Indulgence are not nuns at all. They are transgender and queer drag queens dressed in technicolour—or sometimes leather—habits, who raise money for local charities. The sisters' fame grew last month when the Los Angeles Dodgers invited, uninvited and then re-invited them to the club's annual gay-pride night game. The baseball team suddenly found itself caught between conservatives who consider the drag nuns an anti-Catholic group and liberals outraged that the team capitulated to appease the conservatives. The Catholic League for Religious and Civil Rights is filling Los Angeles's airwaves with radio ads urging the faithful to boycott the game. Attendance on June 16th will reveal whether LA's religious baseball fans feel the need to stop worshipping at Dodger Stadium.

As absurd as the fight over the sisters has become, it is just one of many political skirmishes over gay-pride events this year. In Glendale, a city next to Los Angeles, a brawl erupted outside a school-board meeting in which officials were deciding whether to recognise June as LGBTQ pride month for the fifth year running. Parents protested against a pride assembly at an elementary school in North Hollywood. Nor is the backlash limited to California. Conservatives called for the boycott of Bud Light, Cracker Barrel, Target, The North Face and other brands that recognise pride month, work with transgender influencers or hawk rainbow-flecked merchandise.

Get thee to a nunnery

Bill Clinton first declared June to be national "gay and lesbian pride month" back in 1999. So why, more than 20 years later, has pride become controversial? Two connected trends explain it. First, the scope of pride has changed over the years, perhaps faster than public opinion. During their presidencies Barack Obama and Joe Biden expanded their pride declarations to include more people of different sexualities and gender identities. This year Mr Biden proclaimed June to be "lesbian, gay, bisexual, transgender, queer and intersex pride month". LG has become LGBTQI+.

More Americans than ever, about 71%, support gay marriage. But there is less enthusiasm for the latter bits of the initialism. A recent survey for *The Economist* by YouGov suggests that about a third of Americans think society has gone too far, and the same think it has not gone far enough, in accepting trans people. One opponent of pride month in Glendale identified herself as an LGB activist. "LGBTQIA ["A" stands for asexual] is so broad that it really is quite difficult…to hold together as a front," says Karla Jay, who helped organise the first pride marches in New York and Los Angeles in 1970.

Second, issues around gender identity have become core to the culture wars. The Republican Party's presidential hopefuls are betting that framing their fight against drag shows and books with queer characters as a battle for parental rights will win them votes. Nikki Haley has suggested, without evidence, that trans children playing in girls' sports has led to more teenage girls contemplating suicide. Mike Pence called the Dodgers' drag-nuns invitation "deeply offensive". And Ron DeSantis, by prioritising anti-LGBTQ bills as governor of Florida, has turned himself into America's biggest anti-woke warrior.

Florida has pushed anti-LGBTQ bills, such as the so-called "Don't Say Gay" law, which bans teachers from discussing sexual orientation or gender identity with young pupils (something it is not clear they were doing in the first place). But it is not the only state doing so. The American Civil Liberties Union reckons state lawmakers have introduced nearly 500 gender-identity bills in 2023 alone. Nearly half concern education, and would do such things as ban students from using bathrooms that do not correspond to their biological sex, or oblige schools to inform parents if children change their pronouns.

Meanwhile in Los Angeles, the Sisters of Perpetual Indulgence are declaring victory. "May the fans be blessed!" they wrote after being invited back to the baseball game. "May the beer and hot dogs flow forth in tasty abundance!" ■

Public transport

Going bus

CHICAGO AND SAN FRANCISCO

The model for funding public transport doesn't work

SOMETIMES, IT TURNS out, protests work. On June 3rd, over a hundred San Franciscans mounted a mock funeral for public transport. Walking to city hall in the sun, they carried on their shoulders models of buses and trains like coffins, as musicians played a funeral dirge on trumpets and a saxophone. Their anger was over a proposal by Gavin Newson, California's governor, that would have cut $2bn of spending from public transport in an attempt to balance the state's hefty deficit. MUNI, San Francisco's local transport agency, had suggested it might have to remove the equivalent of 20 bus routes to stay solvent.

Within a week, a deal had been worked out by the state legislature. Assuming it passes (and Mr Newson signs it), instead of cuts roughly $1.1bn a year will be made available to public transport, raised from the state's emissions cap-and-trade scheme. California will thus stave off a problem afflicting public-transport systems across America: that of a fiscal cliff, as federal covid-relief money dries up. The Golden State is not alone in creating a financial parachute. In May New York legislators agreed a budget with over $1bn of new funding for the Metropolitan Transit Authority, New York City's system. Minnesota has also introduced a new sales tax to raise $450m a year for the system in Minneapolis and St Paul.

Compared with other countries, public-transport use in America has been slow to recover from the pandemic. The number of bus and train passengers in May was still at only 69% of the pre-pandemic level, according to data from the American Public Transportation Association, an industry group. In May New York's subway was carrying a mere 71% of the passenger total in 2019. Ridership on BART, in the San Francisco Bay Area, was at just 37% of the 2019 figure. In London in May, travel on the Underground system was already back to around 87% of pre-pandemic levels.

If it persists, lower ridership means less revenue from fares. For example, the ticket take on the Chicago Transit Authority was almost $300m lower last year than in 2019. Awkwardly, those agencies which were considered to be doing the best job pre-pandemic—because they raised lots of fare revenue, and so were subsidised less—are now the ones most in trouble, notes Yonah Freemark of the Urban Institute, a think-tank in Washington, DC.

In 2008, when the Great Recession created similar deficits, the result was often steep service cuts and fare rises. That could happen again. "We have some very serious fiscal challenges," admits Leanne Redden, the director of Chicago's Regional Transportation Authority, an umbrella agency for the region's three transport agencies. She projects a $730m deficit by 2026. The transport systems of Boston and Philadelphia also face funding shortfalls that have yet to be tackled. Seattle's has already announced cuts.

Yet even if states put up money, other changes will be needed to encourage ridership. Rising crime and disorder have kept some passengers off the subway in New York, says Nicole Gelinas of the Manhattan Institute, a think-tank. In Los Angeles, where homelessness has become an extreme problem, 22 people died in the year to March on buses and trains, most from drug overdoses. Crime also makes holding onto employees trickier, says Kam Buckner, a state representative in Illinois. Drivers he knows "have walked away because they don't feel safe". Staff shortages mean service is already shoddier even as the money still flows.

Yet good public transport is needed in America's cities more than ever. Ted Egan, the chief economist of San Francisco, says the city's economy will struggle to recover without it. "You can't have everyone drive in," he says. Without decent buses and trains, building more housing while lessening punishing congestion will be tricky. Yet the benefits, while immense, are also diffuse. By contrast, cliffs, fiscal or otherwise, are difficult to miss. ■

Birding

Feral parakeets

BROOKLYN, NEW YORK

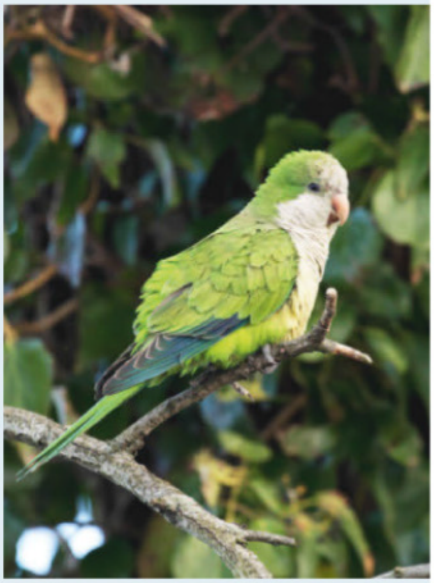
Pretty pests present power problems

"THESE GUYS are tenacious," says John Stalzer, of PSEG Long Island, a utility company. No matter what his team does to stop them from building nests, the monk parakeets prevail. The birds will find the smallest gap, as teeny as a quarter of an inch (6mm), and insert a twig. "They will literally build off a twig and build their nests," says Mr Stalzer, an environment specialist. "We should hire them as engineers." The nests can be ten feet (three metres) in diameter , apartment buildings for the feathered set. When the birds expand their nests around electrical equipment, which keeps them warm, they can cause power cuts and sometimes fires. Since May 2021 they have knocked out power for 41,000 customers on Long Island.

Monk parakeets, also known as Quaker parakeets, come from Argentina, where they are pests to farmers. But they look cute and are sociable, so lots were exported. Birds now breed in more than 20 states, including cold spots like Chicago. Stephen Pruett-Jones, a professor of ecology and evolution at the University of Chicago, says most of the colonies in America are probably descendants of escaped or released pets (another theory, almost certainly not true, is that the wife of a pet-shop owner released all the pet parakeets after a bitter divorce).

America has about 50,000 non-native plant and animal species. About one in nine of those species has become invasive. Their cost is huge—estimates of the damage run to $120bn a year.

California has made it illegal to own a monk parakeet. In general, though, cuteness is an excellent survival strategy in the Anthropocene. PSEG does not destroy nests during nesting season. A lawmaker in New York introduced a bill to give monk parakeets protected status. Before the pandemic Stephen Baldwin gave parakeet safari tours in Brooklyn. Bird-watchers trek to Green-Wood Cemetery to see the nests built atop its Gothic Revival entryway. Other invasive species, like the Burmese pythons in Florida or the hemlock woolly adelgid (an aphid-like critter with no natural predators in North America), have less support.



Who pick holes in his suit

America and China

The chain

ON BOARD A US MILITARY AIRCRAFT

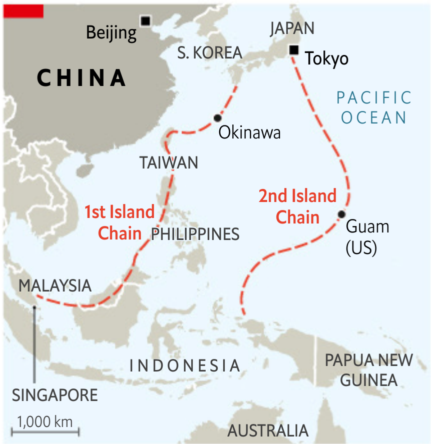
How the Pentagon thinks about America's strategy in the Pacific

How to prevent war with China? And how to win if one breaks out? As American strategists turn to the map, one school argues for holding the "first island chain" that girdles China, from Japan to Malaysia; others prefer to draw the line at the second chain, which runs from Japan to New Guinea. The first is populous and important economically but also vulnerable, lying well within the "weapons engagement zone" of many Chinese missiles; the second is safer and offers more certain access—including American outposts such as Guam. To judge from a flurry of moves by America and its allies, the answer is: redouble the defences of the first chain, but also strengthen the second.

In defence terms, America's "pivot to Asia" is not a single move, but a weaving of initiatives—with overlapping bi-, tri-, quadri- and multilateral deals—to create an ever-thickening lattice on China's periphery. Some deals are modest; many are uncertain if tested in war. But they amount to the "fortification of America's forward defence perimeter in the western Pacific", says a senior American defence official.

American planners once traced east-west lines of coaling stations in the Pacific to reach China and Japan. But the second world war changed their perspective, says Michael Green of the United States Study Centre in Sydney. The attack on Pearl Harbour showed that vast distances do not guarantee safety; America's island-hopping campaign highlighted the importance of north-south axes. Later on, the first island chain helped America contain the Soviet Union. Now it holds back China.

To see how, begin with the northernmost link, Japan. Despite its pacifism, it is greatly boosting defence spending. American marines in Okinawa are practising how to scatter and defend the islands and sea passages. The next link, Taiwan, is under intense strain, given China's aim to retake the self-governing island by force if necessary. America may soon announce the first "drawdown" of weapons from its own arsenal, pre-emptively strengthening Taiwan much as it has armed Ukraine. The Philippines, the next link, is weaker but has agreed to give America access to nine bases in the country; in return America is helping to beef up its forces.



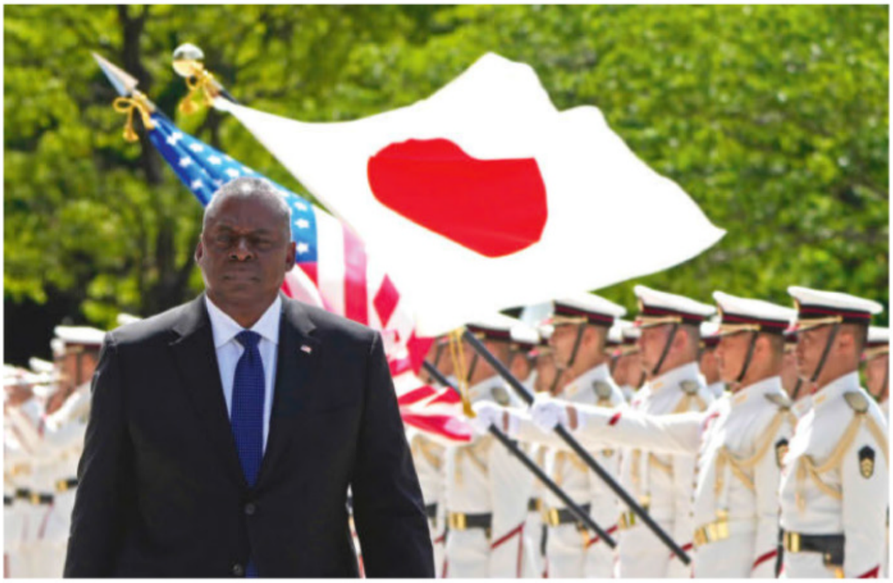
In the second chain, meanwhile, America is devising ways to disperse its jets in wartime and hardening the defences of Guam. It wants to project more power from Australia, where it rotates air force and marine units. It is working with Britain to supply nuclear-powered submarines to Australia under the AUKUS deal; the three are also working on new weapons, including hypersonic missiles. Farther afield, the Quad—America, Australia and Japan working with India—is not a formal security grouping, but their navies exercise together. Across the region, American-led war-games are becoming bigger and more sophisticated. Sometimes America's security arrangements are limited, for instance its new defence deal with Papua New Guinea; or its efforts to help littoral states improve "maritime domain awareness" to, say, curb illegal fishing by Chinese fleets. This, too, helps enmesh America in the region.

Travelling across Asia on an E4-B, the flying command post of Lloyd Austin, America's defence secretary, brings alive this web-weaving strategy. One expected highlight turned to disappointment when the Chinese defence minister, Li Shangfu, declined to meet him at a talkfest in Singapore—even as a near-collision of American and Chinese warships in the Taiwan Strait on June 3rd made plain the need for such contacts. (Antony Blinken, America's secretary of state, is visiting on June 18th).

Still, Mr Austin was busy strengthening links. In one meeting he sought to hasten the rapprochement between Japan and South Korea and integrate their missile defences. In another he brought forth a new quad with Australia, Japan and the Philippines. In Tokyo he promised to help Japan develop "counter-strike" missiles that could reach mainland China. In Delhi he prepared an ambitious defence-industrial deal with India (see Asia).

China accuses America of building an "Asian NATO". But the reality is a looser system. America's friends and allies in the "Indo-Pacific" have no mutual-defence commitments akin to NATO's Article 5, under which an attack on one is an attack on all, nor integrated multinational commands. Japan is just starting to develop a joint headquarters for its own military branches. How that might connect to American command structures is unclear.

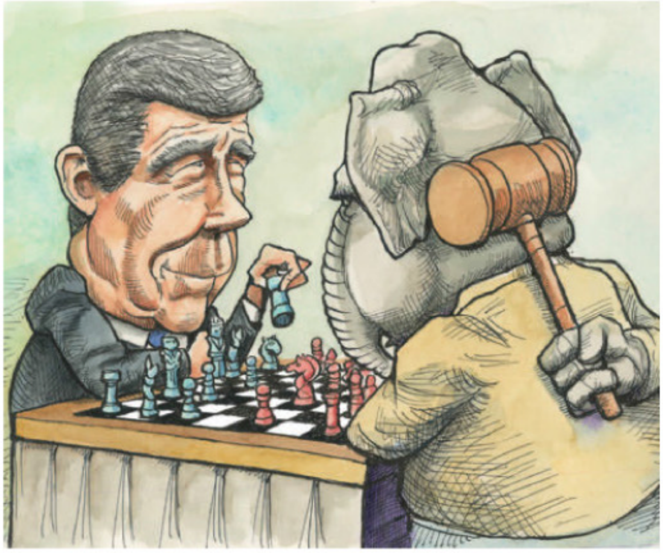
In any war, the US official admits, America cannot be sure who would fight or offer help. Much would depend on the politics of the day. But he notes: "China also faces growing uncertainty. It is one thing for China to threaten one country, another for it to risk war with the whole region." ■



Austin's powers

Lexington | Carolina in their minds

Political manoeuvres and demography are making North Carolina pivotal to the 2024 race



THE MOST fascinating political chess match in America outside Washington, DC—where the usual game is more like 52-card pickup anyway—is taking place in North Carolina, involving races from the local to the national level. Joe Biden, who is already running campaign advertising in the state, made his sixth trip there as president on June 9th, the same day as Governor Ron DeSantis of Florida and a day ahead of two other Republican candidates, Mike Pence and Donald Trump.

At the state Republican convention in Greensboro on June 10th, Mr Trump called North Carolina "a very, very special place" and boasted of his "tremendous success here". He chose not to mention that from 2016 to 2020 his margin of victory plunged by 2.3 percentage points, to fewer than 75,000 votes out of more than 5.4m cast. Among the 26 states he won in 2020, that was his narrowest edge. Whereas a Democrat has a plausible path to victory without North Carolina's 16 electoral votes, a Republican does not.

Having dominated legislative races in rural areas, Republicans have the chance to entrench control: this spring a Democratic lawmaker stunned her party by defecting, thereby providing Republicans with majorities big enough to make law over vetoes by the governor, Roy Cooper, a Democrat in his second term. Republicans won a majority on the elected state Supreme Court last year, removing another check.

Yet the governor gives every sign of feeling he has the Republicans right where he wants them. A genial, canny centrist first elected to the legislature back in 1986—he wrote the veto law, in 1995—Mr Cooper thinks they are overplaying their hand. "They're beginning to hear from their constituents," he says with a chuckle, sitting in the governor's mansion in Raleigh and gesturing toward the statehouse. "I'm talking to their constituents and informing them of what's going on behind closed doors over there."

The legislature has begun stripping the governor of some powers, granting itself authority to make certain appointments. Mr Cooper is worried about what that means for the balance of power, but does not think voters will pay much attention to such mechanics. "They care about the issues that affect their day-to-day life, so they care about some of the things that are beginning to result from this grab for power," he says. He points to a 12-week ban on abortion that the assembly just imposed over his veto, and a school-voucher plan to let parents, regardless of income, use public money to pay for private school.

Mr Cooper, whom polls show to be the most popular state politician, has declared a state of emergency in public education and is using his bully pulpit to warn that the abortion ban is a step toward even tighter restrictions. A poll by Meredith College in February found that 57% of the state's residents supported keeping or expanding the previous law, which allowed abortion up to 20 weeks. Republican lawmakers argue that their law is a sensible middle ground. "The things in this bill are not obstacles to abortion," the state's speaker pro tempore, Sarah Stevens, insisted during floor debate. "They're safeguards." That is a posture unlikely to satisfy either Democrats or fervently anti-abortion Republicans.

Mr Cooper is term-limited, which means North Carolina will have one of the fiercest races for governor in 2024. The likely Democratic nominee is Josh Stein, the state attorney-general, who is cut from Mr Cooper's cloth. The Republican front-runner is Mark Robinson, the lieutenant governor, elected separately from the governor. He models the Trumpist flair that enraptures Republican hardliners but tends to dismay everyone else. He has compared abortion to slavery, called homosexuality and transgenderism "filth" and ridiculed survivors of a school shooting as "media prostit-tots". He has praised Joe McCarthy and attacked the civil-rights movement as destroying freedoms. Mr Robinson, who is black, complained on Facebook that the movie "Black Panther" was "created by an agnostic Jew" and "put to film" by a "satanic Marxist." At the state convention, Mr Trump called Mr Robinson "one of the great stars of the party" and said he would endorse him.

Carolina blues

Some Republican activists believe their party's dominance is assured by the erosion of the historic Democratic loyalty of voters in the rural east of North Carolina, Mr Cooper's home turf. But Paul Shumaker, a longtime Republican strategist, does not share their optimism. He notes that 75% of the increase in voters in the past decade has occurred in just 12 of the 100 counties, in and near cities that favour Democrats. "My message to my party is if you don't fix your urban-suburban problem, you won't fix your statewide problem," he says. "And not just your supermajority, your majority will be gone by the next decade."

Mr Cooper is not counting on that trend alone. "Demography may be destiny, but you have to make it work, and you have to get people out to vote," he says. With all legislative seats on the ballot in 2024, he plans to run a Democratic candidate in every district to motivate Democrats even in overwhelmingly Republican areas. "That will help us overall statewide," he says. "And I think there's going to be a historic amount of investment in the governor's race, because of what's at stake."

Republican legislators plan to rewrite voting laws in ways that will advantage them, and they will also be able to draw favourable state and congressional districts. Under the "independent state legislature theory", North Carolina's Republicans are arguing at the Supreme Court that legislatures should be free of any court oversight of election laws. The court seems unlikely to endorse that view, but Mr Cooper worries about what it implies for election integrity. "The foundation of democracy is at stake when you have a legislature, just like President Trump, who would do anything to the fabric of the system to stay in power," he says. "And my goal is that we would never find out whether they would go that far." ■

Brazil's green agenda

Unsustainable

SÃO PAULO

Lula's ambitious environmental plans clash with reality

When Luiz Inácio Lula da Silva won Brazil's election last year, climate activists the world over breathed a sigh of relief. His right-wing predecessor, Jair Bolsonaro, had gutted the environmental agency, turned a blind eye to illegal gold-mining and undermined indigenous rights. Lula, by contrast, promised to end illegal deforestation in the Amazon and lead international efforts to halt climate change. On June 5th the left-winger outlined an ambitious plan to stop illegal deforestation in the Amazon by the end of the decade. "There should be no contradiction between economic growth and environmental protection," he said. Yet Lula's green agenda is suffering setbacks.

In theory, Brazil is well placed to lead efforts against climate change. In 2019 fully 82% of its electricity was generated from renewable sources, compared with a global average of 29%. Its carbon emissions mainly come from deforestation and agriculture, rather than energy.

Curbing deforestation promises rich rewards. The World Bank estimates that the value of the Amazon rainforest, mainly as a carbon store, is $317bn a year, nearly all the benefits of which accrue to the rest of the world. This is three to seven times more than the estimated value which could be made from farming, mining or logging in the area. A Senate committee is working on creating a carbon market, which would allow Brazil to make money by selling carbon credits. And in April the EU, with which Brazil may soon sign a trade agreement, passed a law that will ban imports of products that contribute to deforestation. All this provides incentives to prevent more tree-felling.

Several problems are getting in Lula's way. For a start, he is far less popular than under his first two terms, between 2003 and 2010. Back then, he could sway Congress more easily. But he only won last year's election by a slim margin.

What's more, Congress has veered to the right. Lula leads a rowdy coalition that has frequently failed to vote with him. He has had to resort to pork-barrel tactics, but that has not entirely worked. On June 1st Congress passed a law that removed the rural-land registry and management of waste and water from the environment ministry. It also took away the power of the newly created indigenous ministry to demarcate territories. The day before, the lower house passed a bill which, if approved by the Senate, would not recognise claims to land by indigenous groups arising after 1988.

Both bills were coups for the agri-business lobby, which is the second problem for the president. Agriculture is increasingly important in the country. First-quarter GDP figures released this month show the agricultural sector is 18% larger than the same period last year, a performance strong enough to prompt analysts to raise their full-year forecasts for the whole economy. This was partly because of a spell of good weather compared with last year, and because the price of agricultural commodities has risen. By contrast industrial output declined and the service sector grew slightly. According to the World Bank, ▸▸

→ Also in this section

38 China's view of Latin America

39 Wildfires rage on in Canada

the value added of agriculture, forestry and fishing as a share of GDP has risen from 4% in 2010 to 7% in 2021.

The agri-business lobby now commands 347 out of 594 seats across both houses of Congress, up from 280 in 2018. "There is no Brazil without agri-business," says Pedro Lupion, the leader of the lobby.

Part of the agriculture sector's expansion happened under Lula's first two administrations, when trade with China accelerated. Yet Lula has struggled to win back the support of the lobby, which has rallied behind Mr Bolsonaro. In April Lula's agriculture minister had his invitation to the country's biggest agricultural fair rescinded, after Mr Bolsonaro announced that he would attend. Later, Lula called the organisers of the event "fascists". Mr Lupion complains that the left has made the green agenda an "ideological" issue.

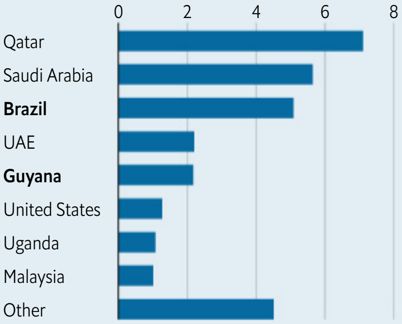
A third problem for Lula is the importance of the state oil firm, Petrobras. In his first two administrations, Lula celebrated Petrobras as a national champion after the company made one of the largest offshore oil discoveries ever in 2006, in what are known as the pre-salt fields off the south-eastern coast. The discovery allowed Brazil to become the world's eighth-biggest oil-producer. Much more of that potential oil will be developed this decade, which the government hopes could make Brazil the fourth-biggest oil-producer. Adtiya Ravi, an analyst at Rystad Energy, a consultancy, estimates that oil from the pre-salt fields alone could account for nearly 4% of global supply by the end of the decade. Petrobras expects to increase output from 3m barrels per day today to over 5m by 2030.

Along with developing existing projects, Petrobras is trying to win a licence to drill for offshore oil near the Amazon basin, in an area known as the equatorial margin (see map). This area could hold as much as 30bn barrels of oil and its equivalents, of which a quarter are thought to be extractable. Recent discoveries of oil in Guyana and Suriname are encouraging Petrobras, which is ready to invest roughly half of its $6bn exploration budget over the next five years in the area. On May 18th Brazil's regulator denied the company an exploration licence, though Petrobras has appealed the decision. Alexandre Silveira, the energy and mining minister, described oil exploration in the region as a "passport to the future", and called the regulator's demands "incoherent and absurd". Lula said he finds it "difficult" to believe that oil exploration would cause environmental damage in the region.

Catching up

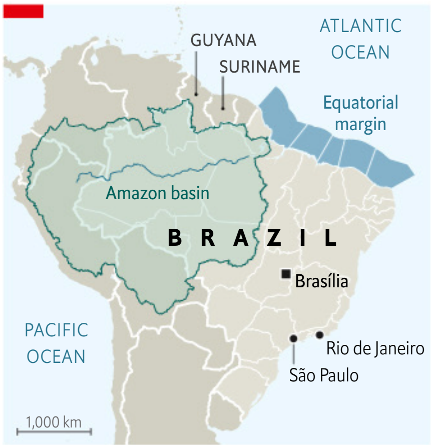
Thirty largest oil and gas projects approved in 2022 and 2023*

Recoverable resources, barrels of oil equivalent, bn



*At June 2023, includes those expected to be approved

Source: Rystad Energy



Meanwhile, Petrobras's five-year business strategy barely mentions investments in renewable energies. It says $4.4bn, or 6% of its capital expenditure over the period, will go towards "strengthening [the company's] low-carbon position" and most of that will be directed towards decarbonising oil production, rather than fostering renewable energy. By comparison, BP invested $5bn in renewable energy, hydrogen, biofuels and electric-vehicle charging stations in 2022, or 30% of its capital expenditure that year. Maurício Tolmasquim, recently appointed the chief energy-transition officer at Petrobas, admits that the company "is lagging behind" other major energy companies in its plans to go green. In March its new CEO, Jean Paul Prates, boasted that Brazil could be "the last oil producer in the world".

According to Rystad Energy, Brazil has approved or is set to approve the highest number of oil and gas projects in 2022 and 2023 after Saudi Arabia and Qatar (see chart). Whereas oil production in Europe, Africa and Asia is set to decline over the next decade, South America's share of global output is expected to rise from 7.2% today to nearly 10% by 2030, mostly thanks to Brazil, Guyana and Suriname.

To fulfil his green pledges, Lula needs to drop "his loyalty to oil nationalism", says Natalie Unterstell, the head of Talanoa Institute, a think-tank in Rio de Janeiro. But the government can smell the money. Even without the development of the equatorial margin, Petrobras expects to provide over $200bn of revenue to state coffers over the next five years, or about 5% of total government revenues.

The final obstacle is a desire to develop the Amazon and the states near the equatorial margin. Brazil's northern and north-eastern states contain three-quarters of the country's poor (as defined by estimates from the statistical agency), though they contain just over a third of its population. Northern governors want more investment. Last June, before being elected, Lula said he was in favour of a highway being built through the Amazon that would connect the soya-growing interior to ports on the coast. Lula's transport minister has also listed a huge railway that would link the interior to the coast among his priorities. Yet one study from 2021 reckoned that if the railway were constructed, 230,000 hectares of trees on indigenous lands would be chopped down by 2035.

Already, Lula's desire to boost the economy has clashed with his environmental agenda. Days before announcing the plan to end deforestation, his administration lowered taxes on cars and lorries to stimulate consumption. To go green, Lula will need to adapt many of his plans for enriching Brazil. ■

China and Latin America

Comrades across continents

MEXICO CITY

What does China want from Latin America and the Caribbean?

CHINA'S ENGAGEMENT with Latin America has tended to be purely transactional. It went from hardly trading with the region at the turn of the century to overtaking the United States to become the top trading partner for South America, and the second almost everywhere else in Latin America. Annual goods trade between China and Latin America rose to $445bn in 2021, up from $12bn in 2000. But its relationship with the region appears to be evolving. Latin America is increasingly useful to China in geopolitical terms, too.

On June 8th the *Wall Street Journal* reported that the Communist government of Cuba had secretly agreed to allow China to set up an electronic-spying facility in the country (see China section). At first American and Cuban officials denied the story. Two days later the White House admitted that a base has existed for some time. This is not the first time that China has been reported to have military or security footholds in the region. China has long been

▸▸

thought to have a small military presence in Cuba and access to listening stations. It has several satellite ground-stations in Latin America, which are believed to also have spying purposes. A space observatory in Argentina is run by the Chinese army and its activities are opaque. The latest move is "a small step", says Evan Ellis of the United States Army War College, "but over a big threshold".

Deepening geopolitical ties follow closer economic ones. China is a big source of cash for the region. Between 2005 and 2021 Chinese state-owned banks loaned $139bn to Latin American governments. It has invested billions of dollars in the region, mainly in energy and mining. Some 21 countries in Latin America and the Caribbean have signed up to China's Belt and Road Initiative, a massive global infrastructure-building spree.

Latin American countries are also turning to the yuan for trade and to include in their central-bank reserves. On June 2nd Argentina doubled its currency-swap line with China, meaning that around a third of its central-bank reserves, which stand at $32bn, will effectively be in yuan. Last year, the yuan surpassed the euro to become the second-most important foreign currency in Brazil's central-bank vaults.

Many commercial projects have caused concern. In some cases, they are in sensitive industries such as telecoms or energy. In April a Chinese state-owned power company reached an agreement to purchase two power suppliers in Peru that would give China a near-monopoly over the country's energy grid. Some fret over Chinese construction of ports in the region, such as the Chancay megaport near Lima in Peru, fearing that they could be repurposed to military ends.

China's most recent strategy paper on Latin America, published in 2016, says it will "actively carry out military exchanges and co-operation". Although the United States remains the primary military partner in the region, China has boosted engagement with law-enforcement agencies. It has trained police forces from countries including Argentina and Brazil, donated cars and investigative equipment to Nicaragua and Costa Rica, and sold surveillance equipment to Ecuador.

So far, China seems to be winning the geopolitical popularity contest—and not just with the usual suspects, such as Venezuela's autocratic regime or Cuba's socialists. Since 2017 five countries in the region have ditched ties with Taiwan in favour of China. In March, Honduras was the latest to do so. Xiomara Castro, the president of Honduras, wrapped up a six-day visit to China on June 14th. Argentina, Honduras and Uruguay are all in the process of joining the Shanghai-based New Development Bank, founded by the BRICS countries.

Not all are impressed. Argentina's centre-right opposition is challenging an agreement between the governor of Tierra del Fuego, at the southernmost tip of the continent, and a Chinese petrochemicals group to build a port, power station and chemical plant there costing $1.2bn.

But mostly Latin America's leaders shrug off concerns about Chinese meddling. The chance to avoid what they perceive as hypocritical lectures from the United States appeals not only to left-wingers, but also to populists who have little time for human rights, such as El Salvador's president, Nayib Bukele, and to moderates in Ecuador, Panama and Costa Rica. Even under Jair Bolsonaro, Brazil's right-wing president from 2018 to 2022, who made critical comments about the country, China continued to trade and invest in Brazil.

Whether China's deeper engagement is a risk depends on "the eye of the beholder", says a Mexican official. China has tended to avoid provoking the United States, keeping its engagement primarily in South America rather than Central America and the Caribbean (with the exception of Cuba). But China's growing ambitions and Latin America's supplies of many of the minerals needed for the green transition, such as lithium and copper, mean ties are likely to deepen. ■

Canadian wildfires

Burning bright

American air quality may have improved, but the fires are still going

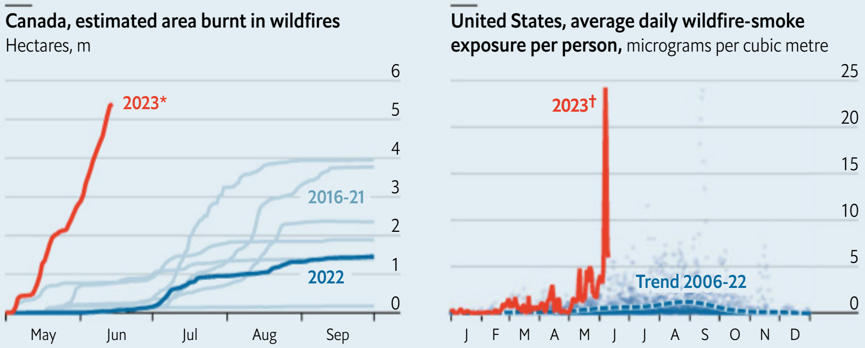
"BLAME CANADA", read the front page of the *New York Post*, when smoke from wildfires in Quebec blanketed the east coast of the United States last week. The average air quality of the country was its worst in a decade. New York was for a time the most polluted major city in the world. What had previously been a problem in Canada—of enormous wildfires—quickly became one in the United States, when abnormal winds pushed plumes south of the border. Since then, the winds have changed, sparing the populous east coast from smoke. But the blazes in Canada are still raging.

Canadian wildfires started earlier than usual this year and have burned ferociously ever since. On one day alone the area burnt in Canada was around 200,000 hectares (or 0.5m acres). That is greater than the total area burnt by wildfires in California last year, according to David Wallace-Wells, a writer on climate change. As of June 14th, the Canadian Interagency Forest Fire Centre, a not-for-profit, estimated that a total area of 5.4m hectares had been set alight—roughly the size of Costa Rica. This makes 2023 so far the worst year for wildfire damage since 1995, when it was 7.5m hectares.

The weather is partly to blame. May was the hottest since 1940. It was also seventh-driest. Such conditions desiccate vegetation and help fires start and spread. Although the absolute number of fires has been only slightly higher than normal, each fire has grown far larger than it usually would. The area ablaze in Quebec is 217 times greater, for example.

With the exception of the health hazard posed by the haze, the direct impact on humans has been minimal. Around 26,000 people were ordered to evacuate parts of Canada. But as we went to press, no deaths had been reported. President Joe Biden has said that 600 firefighters would be sent from the United States to help. It would only take a change in the wind to make it America's problem once again.

Annus horribilis



Sources: CWFIS; CBC; StanfordECHOLab; US Census Bureau; *The Economist*

*To June 14th †To June 10th

AI has never been
binary

Augmentation is the law of tomorrow

Artificial Intelligence is here to enhance people's capabilities, not replace them. Those who integrate will gain the advantage. Are you ready for a blended future?

Discover what you can do with the law of tomorrow, today at mishcon.com

Business | Disputes | Innovation | Private
Real Estate | Consultancy Services

Mishcon de Reya Group
It's business. But it's personal.

تحيا مصر
مع تحيات
الحاج

Egypt's military decade

An unloved and lonely president

ALEXANDRIA

Egyptians are increasingly disgruntled by military rule, but they are scared of the chaos another uprising would create

HE PROMISED SO much. He built a new capital. He cut the Suez Canal through the Sinai desert. He spanned his kingdom with railways and bridges. But Khedive Ismail's pursuit of modernisation bankrupted Egypt. First he had to sell his prized palaces. Then his stake in the canal went too. Finally Egypt lost its sovereignty altogether. All that remains of the grand palace in the old city of Cairo where he was born in 1830 are mounds of rubble hiding stray dogs and youngsters injecting drugs.

Today's Egyptians fear they may be reliving the sad tale of a dictator with a similar *folie de grandeur*. Abdel-Fattah al-Sisi, a field-marshal who took over in a coup ten years ago next month, once declared he would create "a new republic". He has built a second Suez Canal parallel to the first, as well as two dozen new cities, railways costing $23bn, hundreds of bridges and a shiny new capital on Cairo's outskirts with a price tag of $58bn. Though Africa's tallest building is nearly finished, Mr Sisi has been driving the economy into the ground. Debt servicing consumes over half the budget. Food inflation is running at 60%. "We can't eat bridges," curses a retired bank manager whose family, like many in the middle class, is sliding towards poverty.

To give him his due, Mr Sisi has fulfilled much of what he promised. He rescued Egypt from the turbulence of the Arab spring, when his people narrowly elected an Islamist whose reign of barely a year was marked by chaos and incompetence. Mr Sisi has also hauled Egypt out of the 30 years of sclerosis under a previous military leader, Hosni Mubarak, and has frenetically tackled the country's decayed infrastructure. He has opened the first stage of a high-speed railway that is set to run from the Mediterranean to the Red Sea. A billboard on the airport road proclaims: "4,800km of highway".

He has made the country function better in other respects, too, despite the rise in population by nearly 3m a year: it now tops 106m. Traffic jams are less frequent. Digital government services are speeding up applications that used to be tangled in red tape and long queues. Waiting lists at state-run hospitals have fallen, officials say.

Mr Sisi has bucked some bad old traditions. For instance he has junked regulations that restrict church repairs: Coptic cupolas are rising above small towns in the Nile delta. The genital mutilation of infant girls is falling because of tougher penalties. And though he is deeply religious, Mr Sisi has backed reforms of Koranic prescriptions that would give women half a man's share of inheritance. More women are dropping the once common *niqab*, the full-face veil; many are removing the veil entirely. Thanks to phone apps in big cities, "Ana nazil date (I'm off on a date)" is a trendy new expression.

The costs, though, are hard to bear. Under Mr Sisi external debt as a proportion of GDP has more than doubled (see chart on next page). Dwindling business confidence has triggered capital flight. Foreign investors withdrew $20bn in the first nine months of last year. Under Mr Sisi the Egyptian pound has lost five-sixths of its value against the dollar; it has halved in the past year. In a country that imports many

→ Also in this section

42 Lebanon's boat people
43 Might Saudi Arabia recognise Israel?
43 Carbon capture in Kenya
44 Africa's rural economies

essentials, inflation is soaring. The cost of antidepressants has doubled since April.

Hard currency is so scanty that last month Egypt had to defer payment for wheat. Large debt repayments are pending, shrinking the dismal share of the budget that is devoted to education and health. By some calculations more than half of Egyptians can be deemed to be poor. Police in starched uniforms ask for *baksheesh* (bribes). Judges tend to obey the ruler.

While billboards display happy homes in Mr Sisi's sparkling new cities, Egyptians are becoming more disgruntled—and outspoken. Mr Sisi cannot jail all the people all the time: at least 60,000 are thought to be behind bars for political reasons. His campaign for a third term has already begun in the provinces. But his unpopularity is everywhere palpable. "He controls everything," says a Cairene father of five. "So why can't he control prices?"

Some say that if Gamal Mubarak, a son of the late president ousted in 2011, were allowed to stand against him, Mr Sisi would lose. Others quietly promote the virtues of Hazem Abu Ismail, an Islamist who is in prison. Football fans half-seriously suggest Mo Salah, a clean-living star who plays for Liverpool. Even the 71-year-old Ahmed Fouad, the son of the late King Farouk who resides in Switzerland and speaks broken Arabic, is occasionally mentioned.

The anger is also aimed at the army, the state's backbone since the monarchy's fall in 1952. Army engineers claim to be more public-spirited, less corrupt, more efficient and cheaper than their counterparts in the private sector. Their access to conscript labour, after all, gives them a competitive edge. But the generals who have replaced technocrats to run key state enterprises have been an avaricious bunch. A study by Yezid Sayigh of the Carnegie Centre in Beirut found that the armed forces have been expanding their economic and commercial activities. "They're seen as serving themselves, not the country," says a journalist, echoing a standard view.

Last month, after trailing the idea for nearly a year, Mr Sisi launched a "national dialogue", an old trick. In theory he ponders suggestions from the people. Handpicked participants, excluding bodies like the Muslim Brotherhood, which in 2012 won the last free election, have a few minutes to speak. It is plainly a charade.

Meanwhile would-be investors, donors and the IMF are losing patience. Last year the fund was assured that 32 companies owned by the army would soon be privatised. It has yet to happen. "We have to protect jobs for Egyptians," explains a loyalist. "The army is a Frankenstein," says a seasoned foreign observer. "It won't give up its economic control."

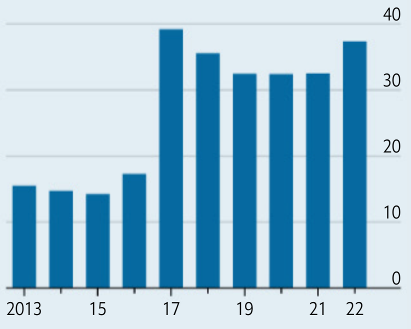
Islamist desires for revenge may still lurk. "This president killed our president," says the suffering bank manager, referring to Muhammad al-Morsi, the overthrown Islamist president who died in prison in 2019. A liberal group has drafted a manifesto, "The last of the generals", proposing a transition back to civilian rule. But most Egyptians are wary of the chaos that followed the uprisings of 2011 and 2013.

Mistrusting his own generals, Mr Sisi regularly rotates their jobs. He may want to curb the ambition of Mahmoud Hegazy, a former head of intelligence who is his son's father-in-law. The president is thought to sleep in a different place every night. After all, he has enough fine houses to choose from.

Egypt has often looked for economic salvation to the Gulf, which is estimated to have extended almost $100bn in soft loans, grants and cheap fuel since he took power. But of late the sheikhs have despaired. In the past few years they have sent little, says a Western diplomat. Instead of bail-outs, they talk of acquisitions. Khedive Ismail's charming Gezira Palace in Cairo may be back on the market. It is whispered that for a trillion dollars or so Egypt may even have to offer a 99-year lease of the Suez Canal. ■

Quagmire

Egypt, external debt as % of GDP



Source: IMF

Lebanon's boat people

Head west across the sea

BEIRUT

Life at home is so wretched that more and more are risking a watery end

LAST AUGUST 31-year-old Nader Yusuf embarked with 410 other people on an eight-day sea crossing from Lebanon to Italy. His salary as a delivery driver, priced in Lebanese pounds, had plummeted in two years to barely 5% of its original value against the dollar, leaving him unable to afford his $100-a-month rent. He was promptly evicted, along with his pregnant wife and five children, two of whom were seriously ill.

Depressed and desperate, Mr Yusuf sold his truck for $4,000, borrowed another $2,000 to pay a smuggler to take him to Europe and called his wife from the boat to say what he had done. "Please forgive me, I had no other choice."

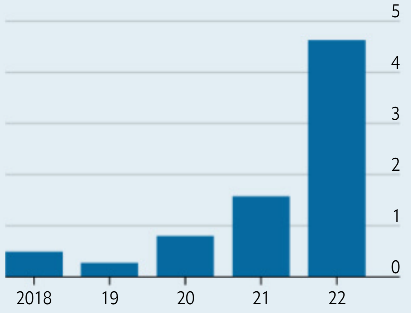
Most of the boat people leaving the shores of Lebanon illegally are Syrians seeking asylum in Europe. The overall number illicitly plying the seas has leapt tenfold in four years, according to the Lebanese army, which is supposed to stop them.

But the proportion of those coming from Lebanon doubled from 12% in 2021 to 24% a year later. Triple-digit inflation, an economic meltdown and a breakdown in public services are driving more Lebanese people away. According to a recent poll, 61% of them say they would like to live or work abroad.

"People come here every day looking for somebody to take them across," says Zakaria Abd el-Rahman, a 60-year-old boat captain in Tripoli, Lebanon's second port. Seven years ago he used to charge $1,000-2,000 a head to take Syrian asylum-seekers on the 14-hour crossing to Cyprus. Not any more. In 2020 Cyprus and Lebanon agreed that irregular arrivals would be swiftly sent back.

Westward on the waves

Number of people leaving Lebanon illegally by boat, '000



Source: UNHCR

So most boats leaving Lebanon illegally now head for Italy, ten times farther. In 2019 the number who died trying to reach nearby Cyprus was six; last year at least 157 perished heading farther west. A migration expert fears that this year fatalities could reach 400.

The risk of boats being caught has also increased, prompting some captains to stay in Europe themselves. And desperate people still want to brave the passage. Mr Yusuf is now in Germany.

Israel and Saudi Arabia

Normal at last?

JERUSALEM

Binyamin Netanyahu may be getting close to a historic diplomatic deal

For years Israel and Saudi Arabia have been partners in all but name. The leaders of the two countries confer in secret, share a rival in Iran, plan joint telecoms infrastructure, do quiet business deals and are members of American-led defence alliances. But while five other members of the Arab League already have agreed to full diplomatic relations with Israel, it has not been that simple for the Saudi kings to break 75 years of taboo against "normalisation" with the oft-reviled Jewish state.

The Saudis' conservative 87-year-old king, Salman bin Abdelaziz, has been loth to make any public overture to Israel while the Palestinian people remain stateless. The Saudis have long backed the Arab Peace Initiative of 2002, which stipulates that normalisation can come only after Israel vacates the territories it conquered in the war of 1967 and allows a Palestinian state there to be born.

No progress has been made on the Palestinian front since the initiative was first published, so some Arab countries have stopped waiting. In 2020 Bahrain and the United Arab Emirates (UAE) agreed to establish formal ties with Israel, a step they are unlikely to have taken without tacit Saudi support. A flurry of diplomatic activity between the Saudis, Israelis and Americans suggests that the kingdom may be ready to come out into the open, too.

"We believe that normalisation is in the interest of the region, that it would bring significant benefits to all," said the Saudi foreign minister, Faisal bin Farhan, in June. It is the closest that the Saudis have come to acknowledging in public their desire to have formal relations with Israel.

The main reason is a change in President Joe Biden's attitude to the Saudis. In 2019, before coming to office, he said he intended to treat them as "the pariah that they are". This was in the wake of the murder and dismemberment of a Saudi columnist for the *Washington Post*, Jamal Khashoggi, by agents presumed to be working for the kingdom's crown prince and de facto ruler, Muhammad bin Salman.

Mr Biden has reassessed his stance for fear that America's standing in the Middle East is eroding. Since Russia invaded Ukraine, he has failed to get the region's oil-producers to agree to an energy policy that would help Western countries ride out the shortages caused by their cutting links with Russia. This year China also stole a march on America by mediating an agreement between the Saudis and Iran to resume diplomatic relations with each other.

Achieving an Israeli-Saudi deal is part of America's wider strategy to renew and enhance its alliance with the Saudis, while once again seeking an agreement with Iran to limit its nuclear programme in return for economic-sanctions relief. Midwifing improved relations between Israel and the Saudis would serve a dual purpose.

Binyamin Netanyahu makes no secret of his desire to be the Israeli prime minister who signs a treaty with one of the Arab world's chief powers. Such a feat might soften his opposition to an American deal with Iran, which could soon be able to build nuclear bombs. Mr Netanyahu is revered by many Republicans in America, so having him on board would help Mr Biden sell an agreement with Iran to his foes at home. With America's presidential election only a year and a half away, he would present it as a major foreign-policy coup.

Obstacles remain, however. The crown prince, known as MBS, has a long list of demands, including the supply of advanced weapons systems, American support for a civilian nuclear programme and a strategic defence treaty beefed up by assurances the Americans are reluctant to grant. Were these demands to be at least partially met, the Palestinian issue would nonetheless fester. Israel would have to make some kind of concession over it, even one amounting to little more than lip-service, to appease the Saudis. ■

Carbon removal

The Great Carbon Valley

NAIROBI

Kenya is a surprisingly good place to clean the atmosphere

East Africa's Rift Valley, which runs for thousands of kilometres from the Red Sea to Mozambique, provides a unique window into the evolutionary history of humanity. The shifting of tectonic plates that formed its deep lakes and sheltered canyons created conditions that first nurtured the ancestors of modern humans and then preserved their bones. Those geological forces may also push open a door to the future by making it possible to capture and store global-warming carbon dioxide cheaply from the air.

That, at least, is the hope of James Irungu Mwangi, a Kenyan environmentalist and development expert, who talks of the opportunity that could be afforded by what he calls "the Great Carbon Valley". The rift, he argues, has the key attributes that make it attractive for "direct air capture" (DAC) stations to suck carbon dioxide from the air: renewable-energy potential and the right geology for storing carbon.

How green is my valley

DAC plants need huge amounts of energy. Some of this is in the form of electricity, which is used to run fans blowing air through or over chemicals that absorb carbon dioxide. Much more energy is then needed in the form of heat to make these chemicals belch the gas, which is then compressed for use or storage.

Because the earth's crust is thinner than usual along the rift, it has vast geothermal potential. The American government reckons Kenya alone could generate 10,000MW of geothermal power, more than ten times the amount it currently produces. A by-product of such power stations is plenty of waste steam, which can then be used to heat DAC machines. Moreover, since close to 90% of Kenya's power is renewable, the electricity these machines consume does not contribute to more global warming.

Capturing carbon dioxide is just part of the process. Next it has to be safely locked away. The rift's geology is particularly good for this, too. It has bands of porous basalt (a volcanic rock) that stretch across thousands of square kilometres. This makes the region "ideal" for carbon capture and storage, according to a paper published in 2021 by George Otieno Okoko and Lydia Olaka, both of the University of Nairobi. After carbon dioxide has been sucked from the air it is dissolved in water (in the same way one would make sparkling water). This slightly acidic and bubbly liquid is then injected into the rock. There it reacts with the basalt to form carbon-rich minerals—in essence, rocks—which means the gas will not leak back into the atmosphere.

A similar combination of geothermal

▸▸

energy and volcanic rock has already attracted companies elsewhere. Climeworks, a Swiss firm, opened the world's biggest DAC plant in Iceland in 2021. It can remove some 4,000 tonnes of carbon dioxide a year from the atmosphere at a cost of $600-800 a tonne.

Martin Freimüller, the founder of Octavia Carbon, a Kenyan startup, is working to build the world's second-biggest DAC plant in the Rift Valley. He hopes it will be able to sequester carbon dioxide far more cheaply than Climeworks can, in part thanks to cheap renewable electricity and geothermal steam, and in part because hiring skilled engineers and chemists costs less in Kenya than in the rich world.

Octavia's pilot plant, scheduled for completion next year, is forecast to have costs of well below $500 a tonne. Mr Freimüller aims to cut this to below $100 within five years. That is far cheaper than industry-wide forecasts of $300-400 by BCG, a consulting firm. As this new market matures, nascent firms and technologies will have to evolve quickly, or die out. ■

Rural economies

Pastures new

BUSHENYI

Land pressure and expanding markets are transforming Africa's countryside

TO UNDERSTAND THE changing economics of the African countryside, talk to Jovelence Kemizano. Her banana garden slopes into a bucolic valley in Bushenyi, western Uganda. It is too small to feed her family. So when planting time comes, she works for wages in another's field, until she has earned enough to rent an extra plot of her own for the season ahead.

The forces of supply and demand are against her. Rents in her village are rising, because each year there are more people on the same amount of land. She cannot bargain for better pay, as there is always someone else willing to dig in her place. This season she has earned too little to rent a plot. She will work as a casual labourer throughout, buying a kilo of maize flour with her daily wage.

Outsiders often view the African countryside as a sea of self-sufficient peasant farmers, who grow what they eat and eat what they grow. But that romantic picture is long outdated. Rural workers have to hustle and take paid work. Much of their time is spent trading goods or running small shops. This unfolding transformation is driven by both poverty and relative prosperity, existing side by side. Scholars call it the deepening of rural capitalism.

Africa is at an earlier stage of this transition than Asia or Latin America. Nearly all rural Africans still till some land of their own, which often remains their chief source of income. Half of them can be considered farming specialists, in that they earn more than three-quarters of their income from their fields. But household surveys show that people spend just two-fifths of their working time farming their plots. A quarter is spent processing, transporting and selling farm produce.

Bountiful, but not enough

Most of their remaining time goes on small and informal activities such as artisanal mining, making charcoal, brewing beer and driving motorbike taxis. This is to earn cash to pay hospital bills and school fees, as well as to buy foods that they cannot grow themselves. In a swampy hollow near Ms Kemizano's home in Bushenyi a dozen young men press clay into bricks, which they bake in kilns. "We don't have enough land for farming," says Richard Baguma, his palms grey with earth.

The quickening of commerce is also creating opportunities. Traders in Bushenyi buy jerry cans of mudfish and transport them along a chain that stretches across Lake Victoria to Tanzania, where fishermen prize them as bait. A local women's group is making cooking pots. Gordon Ahimbisibwe rides door-to-door on his motorbike, buying coffee beans which he sells to an exporter. He has reinvested the profits in a shop, a lawn-mowing business and a machine for milling maize, as well as snapping up several plots of land.

In places the bustle of trade is boosting demand for local goods and services. Thriving wholesalers and truckers are connecting farms to urban markets. Indeed, workers are leaving their fields at a faster rate in those areas where land is bountiful, because there is more money swilling around to create jobs. "Productive agriculture sheds labour," says Felix Kwame Yeboah of Michigan State University.

Class distinctions are thus becoming sharper, as those with land and capital hire the labour of others. The World Bank's household surveys typically find that wage work in rural Africa is rare. But that may reflect biases in the way that questions are asked, argues Bernd Mueller of the International Labour Organisation. Respondents often conflate the concept of employment with formal salaried work only. And local terms for casual labour, such as the Swahili word *kibarua*, which has its origins in the hiring of slaves, come with stigma attached. When Mr Mueller conducted his own survey in north-east Tanzania he found that 60% of households had members engaged in wage labour, far higher than conventionally estimated.

Where people come from or their gender often determines what work they can get. The expansion of cash crops, such as groundnuts in Senegal and flowers in Ethiopia, pulls in migrant workers from afar, notes Carlos Oya of the School of Oriental and African Studies. Women face particular barriers in patriarchal cultures where they are expected to work within the household. Those who take on paid work are often widowed or divorced.

Workers are improvising new livelihoods almost everywhere. In Zimbabwe the acquisition of land by white settlers created a class of black workers, many from abroad, employed on commercial farms. That system was upended by Robert Mugabe's land-grabs and the economic collapse they caused. Former farmworkers now eke out a precarious living, by mixing small-scale farming, temporary wage work and informal enterprise, says Toendepi Shonhe of the University of South Africa. In that regard, Zimbabwe increasingly resembles other parts of Africa.

The idea of the subsistence farmer isolated from markets is a myth. Surveys of rural households in southern and east Africa find that they purchase more than 40% of their food, rather than growing it themselves. Uganda's President Yoweri Museveni tours the countryside exhorting villagers to "join the money economy". He is wasting his breath. The money economy is coming, whether they wish it or not. ■

India's economy

Forward march

As part of a special section on India as a global power, we look at its growing economic clout

Few visitors can expect the sort of welcome Narendra Modi, India's prime minister, will receive in Washington later this month. Joe Biden, America's president, is throwing a formal banquet for him at the White House. The leaders of the two chambers of Congress, not to be outdone, have invited him to address a joint session for the second time—an honour previously accorded only to the likes of Winston Churchill. The visit will, in the words of a gushing White House press release, "affirm the deep and close partnership between the United States and India".

In fact, the partnership between India and America has never been that deep or close. But America's leaders, both Republican and Democratic, would like it to be. They see India as an indispensable accomplice in their rivalry with China. After all, India recently became the world's most populous country. Its foreign policy has become more assertive and more hostile to China of late, even if it remains opposed to the idea of an American-led order (see next story). Its diaspora is the world's biggest, and remarkably influential (see International section). But India's allure also rests on the sense that its economy may at last be starting to fulfil its potential. It is already the world's fifth-biggest. Mr Modi has promised growth of a sort that would turn it into a pillar of the world economy, on a par with America, China or the European Union. Despite the many failings of his government's economic management, it is not an implausible target.

India's economy will boom, Mr Modi's lieutenants argue, because of its young workforce, muscular industrial policy and the opportunities presented by Western firms' sudden wariness of China. Many high-flying businessmen are persuaded. Tim Cook, Apple's boss, who has just opened its first store in India, declared to investors last month, "The dynamism in the market, the vibrancy, are unbelievable…India is at a tipping point." Days later Foxconn, a Taiwanese electronics firm, broke ground on a $500m factory. India's GDP grew by 6.1% in the first quarter, year-on-year. Investment as a share of GDP is at its highest for over a decade.

→ Also in this section

47 An interview with S. Jaishankar

49 Indo-US defence co-operation

50 Banyan: Modi's popularity

There is no shortage of sceptics. Some point to cronyism and protectionism, which hold the economy back; others complain that dodgy statistics exaggerate its growth. India was hit badly during the pandemic, causing enduring suffering among the poor. Westerners see Mr Modi's erosion of democratic norms and growing sectarianism as potential threats to growth. Chinese officials, meanwhile, think India is not authoritarian enough. In March your correspondent heard one tell an audience of global bosses that India's linguistic diversity, its layers of legislation and its poorly educated workers made it an unattractive place to do business.

But for India to become a pillar of the world economy, no miraculous improvement on all these scores is required. It just needs to keep growing at roughly its present pace. Goldman Sachs projects India's GDP will overtake the euro area's in 2051 and America's by 2075 (see chart 1 on next page). That assumes a growth rate of 5.8% for the next five years, 4.6% in the 2030s and lower beyond.

Goldman's confidence rests partly on

▸▸

demography. The workforces of China and the EU are shrinking as their populations age. But according to projections from the OECD, a club mostly of rich countries, India's will grow until the late 2040s. The swelling supply of labour accounts for a full percentage point in Goldman's forecast of India's annual economic growth over the next five years. India will, however, remain relatively poor. Even by 2075 its output per person will be 45% lower than China's and about 75% below America's.

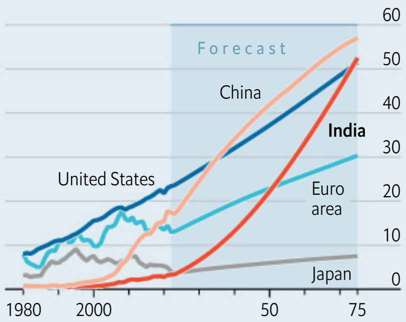
In 1700 India's economy was the world's biggest, eclipsing even China. But its share of global output declined throughout the colonial era and in 1993, after a financial crisis, hit a humiliating low of 1% when measured using market exchange rates. Since then it has grown fast, a trend that has continued after Mr Modi's election in 2014. India now accounts for 3.6% of global GDP, the same as China in 2000. By 2028, the IMF forecasts, it will hit 4.2%, overtaking both Germany and Japan. India's heft is growing in other ways, as well: its stockmarket is the fourth-biggest after those of America, China and Japan. Its annual exports of goods and services relative to GDP are near record levels. They have grown by 73% over the past decade, and as a result India's share of global exports has gone from 1.9% in 2012 to 2.4% in 2022.

Transport infrastructure has improved dramatically under Mr Modi and his recent predecessors. Investment in it has more than tripled as a share of GDP compared with the mid-2010s. The length of the road network has increased by about 25%, to 6m kilometres, since 2014. The number of airports has doubled—and many of the new ones rival the sleekest in the rich world. Digital infrastructure has also blossomed, with 832m broadband connections as of last year and a range of state-sponsored digital services, from e-banking to welfare payments, that reach hundreds of millions of people. There is a build-out of energy infrastructure, too: India will add more solar generating capacity in 2023 than anywhere else bar America and China, according to Bloomberg New Energy Finance.

India is unusually reliant on services for a developing economy: they account for about 40% of all exports (see chart 2). That makes India the world's seventh-largest exporter of services, accounting for 4.5% of the global total, up from 3.2% a decade ago. Its big tech-services firms have been on a growth spurt since the pandemic began, hiring eagerly and honing their software, which is sold around the world. Links to Silicon Valley via India's vast diaspora help maintain the pace of innovation and support a nascent startup culture.

Pillar-to-be 1

GDP, $trn, 2021 prices



Source: Goldman Sachs

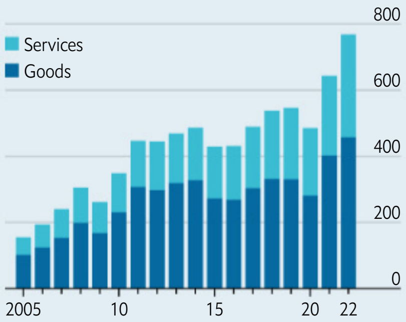
The catch is that the IT-services industry, while earning a huge $200bn-odd in export revenues, directly employs a mere 5m or so people. Indeed, out of a total of over 900m people of working age, only about half are in the labour force and perhaps 60m have formal jobs. One way to remedy this would be to create more blue-collar employment by fostering manufacturing. This has been a preoccupation of Indian policymaking for three decades.

Mr Modi's manufacturing push, under the slogan "Make in India", aims to seize on Western firms' desire to diversify their supply chains away from China. India's infrastructure has improved, it offers a sizeable domestic market and it is awash with potential workers. An IMF study in April concluded that it would be one of the few places to benefit if supply chains were split by a geopolitical divide. To that end, Mr Modi launched a $33bn subsidy scheme in 2020, using "production-linked incentives" (PLIS), which reward firms in 14 industries, from pharmaceuticals to solar panels, if their sales hit certain targets.

Some manufacturing is booming: exports of machinery, electronics and vehicles or parts have risen by 63% in the past five years and are now a fifth of all goods exports. Apple assembles 7% of its handsets in India, according to Bloomberg. Indian conglomerates, including Tata Group, are investing in electronics. Nonetheless, although PLIS have prompted plenty of announcements, actual capital deployed so far is probably below $10bn. One big project, a $19bn semiconductor plant in Gujarat, has stalled, according to some reports.

Cargo culture 2

India, exports, $bn



Source: IMF

Manufacturing grew by only 4.5% year-on-year in the last quarter of 2022, and as a share of GDP, at 17%, is only a little above the average for the past decade. About a third of the increase in exports of goods by value since 2019 reflects India's growing purchases of Russian oil, some of which is refined and re-exported. Vietnam has captured more activity displaced from China than India, whose share of global goods exports has risen only marginally, to 1.8% in 2022 from 1.6% in 2012. In short, there is no big bang in manufacturing in India, although steady growth may continue.

Is this unusual pattern of growth sustainable? Elements of the formula seem sure to endure, including an abundant workforce, strong elite education, an entrepreneurial culture and valuable links to an influential diaspora. Mr Modi is expected to win a third term in office next year. That will provide continuity in economic policymaking at the central level, especially for the infrastructure splurge. Closer relations with America are also helpful for the economy. America, after all, is the buyer of many of India's exports of services. And with a relatively closed banking system, India will continue to rely on Western networks for cross-border payments.

East lenders

Meanwhile financial instability, a plague in the past, seems less of a risk. The banking system has been cleaned up and corporate debt is low. Like China, India has large currency reserves. It also inhibits foreign investment in its banks and government-debt markets to diminish the risk of destabilising capital flight. An attack by short-sellers in January on Adani Group, a well-connected conglomerate, revealed flaws in India's capital markets, such as opaque governance, but also a degree of resilience: they shrugged off the episode.

But three threats do loom. First, the boom in IT services could run out of steam. India's firms have access to a huge pool of skilled labour, and so have adopted a labour-intensive model. But new technology, including artificial intelligence, could undermine this strategy. In preparation, the industry is diversifying into new fields, such as data-science, often provided through "global capability centres" for foreign firms. And it is expanding in accounting and consulting: non-tech services made up about a fifth of all services exports in the last quarter.

The second risk is that Mr Modi's promotion of domestic champions and erosion of institutions, including the courts, may begin to deter foreign investment. Many Chinese tech firms have been banned. Multinationals have long had to deal with India's fluid tariffs, rules and taxes. Now they increasingly feel the need to strike deals with big domestic firms: Holcim, a European cement firm, sold its Indian arm to Adani; Meta invests in Reliance Industries, which has a large digital arm.

Fear of an uneven playing field may explain why gross inflows of foreign direct investment have slowed from a rough average of $7bn a month for the past few years to below $5bn in February and March. There are other signs of tentativeness from big foreign investors. We examined the exposure to India of the four global banks most active there, which often cater to multinationals. On average their exposure to India fell by 11% in 2022 in dollar terms.

But India's government probably reckons that in the longer term it is big enough to draw Western firms, however warped the rules of the game. Their subsidiaries there have sales of almost a quarter of a trillion dollars. Over the past five years the profits of all multinationals in India rose by 80% to $56bn, according to our analysis of central-bank data. That's enough to compensate for a lot of headaches.

The final risk is that India's implicit strategy of "trickle-down" economics may cause a popular backlash. Instead of manufacturing jobs, it relies on wealth from the relatively small amount of formal industry to flow through the economy to benefit a bigger share of the population, who are often poorly educated. This is not necessarily pie in the sky: as more housing is built for the well-off, for example, the construction industry is growing fast, drawing in unskilled workers. And part of Mr Modi's agenda has been to augment trickle-down economics. The government has forced hordes of tiny firms to start paying tax, giving them an incentive to merge, formalise and invest. India's digital welfare schemes have made the provision of aid to the poor more efficient, and could be used to supplement incomes on a bigger scale.

Young and restless

Still, better administration and tech may not make ill-educated people more productive workers. And if the aspirations of India's vast army of the underemployed are not at least partially satisfied, India's growth is likely to suffer. Even if widespread social unrest is averted, it may be because politicians try to satisfy or deflect frustration in unhelpful ways. Mr Modi has combined economic modernisation with illiberalism and religious chauvinism. To placate the jobless, he and his successors may become even more repressive and sectarian. Public opinion could also turn against economic openness. And the Western countries which India is befriending could be put off by such developments. India's economic rise is real, and probably durable, but not without its pitfalls. ■

Indian foreign policy

Non-alignment non-negotiable

DELHI

The foreign minister on India's ties with America, China and Russia

IN A RECENT interview with this paper, Henry Kissinger, a former American secretary of state, gave a troubling assessment of a world in which old powers are fading, new ones are rising and superpower conflict threatens. Yet he offered, alongside few other hopeful notes, this accolade: "I have very high regard for the way the Indians conduct their foreign policy now, because it shows balance."

Among the ways this was striking was the fact that Mr Kissinger is known in India as the former enabler of a viscerally anti-Indian president. "The Indians are bastards," he told Richard Nixon, after the president had hosted India's prime minister at the time, Indira Gandhi, at the White House in 1971. "They are the most aggressive goddamn people around."

What has changed in Indian diplomacy in the intervening decades? In some ways, everything. Over the past quarter of a century, as India has added economic heft to its vast populace, America and its allies have come to see it as an indispensable counterweight to an assertive China. And India, which under Mrs Gandhi was closer to the Soviet Union than America, has seized with growing enthusiasm the opportunities for closer ties that the West has offered. Narendra Modi, in Washington next week to accept praise and goodies—including the possible offer of a step-up in co-operation on high-tech weapons (see next story)—has gone so far as to describe India and America as "natural allies".

In other ways, however, Indian foreign policy remains distinctly challenging to America. India does not really believe in alliances. An immutable feature of its foreign policy, from Nehruvian non-alignment to today, is a deep, post-colonial fear of being beholden to a richer power. That in itself might raise doubts about the extent of its pro-Western tilt. And indeed, it has embraced America's outreach mainly as an economic opportunity, less fulsomely as a strategic one—albeit that its desire for defence and security ties is growing, especially following border clashes with China in 2020. India has also retained its close ties to Russia, whose invasion of Ukraine it refuses to condemn. Russia supplies most of its arms and, thanks to a generous wartime discount, nearly half of its oil.

Mr Kissinger reserved particular praise for India's foreign minister, Subrahmanyam Jaishankar—calling him "the practising political leader that is quite close to my views". To discuss the geopolitical oddity that India's rising power represents, Mr Jaishankar sat down with *The Economist* for a rare, hour-long interview in his airy, sandstone office in Delhi.

Formerly India's top diplomat (and ambassador to both Washington and Beijing), Mr Jaishankar is one of the brains behind India's balancing act. Besides the familiar diffidence about alliances, he espouses above all a commitment to multipolarity. Unlike many in Washington, India does not see the world in terms of a cold-war-style duality, pitting American-led countries against those hewing to China. It sees an emerging dance of big powers—chiefly America, China, Russia and itself—in which it will engage multiple partners, albeit to different degrees. "We would like to have multiple choices. And obviously try to make the best of it," says Mr Jaishankar, a dapper 68-year-old. "Every country would like to do that. Some may be constrained by other obligations, some may not."

As the world churns

That transactional view (in a recent book, Mr Jaishankar describes a "multipolar world with frenemies") does not preclude long-term partnerships. On the contrary, the "transformation of the India-US relationship", he says, is "the big change in my professional life". He attributes much of this to Mr Modi, crediting the prime minister with having jettisoned the "ideological hesitations"—by which he means anti-Americanism—of India's former left-leaning elite. Now, he says, the relationship is "getting more consequential by the day... moving forward very, very rapidly". He believes it will be further boosted by two big economic changes: diversification of supply chains away from China and increased digitisation. Both processes, which he describes as a "new globalisation", in theory depend on the sort of mutual trust India and America are building.

If America wants proof of India's reliability, he implies, it should not look to it to unwind its ties with Russia, but, counter-intuitively, the opposite. India's relationship with Russia, which he terms "a cardinal principle of our foreign policy", has been an enduring feature of it for "60 years of history"—including, he notes pointedly, an American arms embargo on India in 1965 that pushed it to the Soviets. This is clearly self-serving, but so is India's foreign policy. That is rather the point. Mr Jaishankar, far from apologising for India's eagerness to get economic advantage from Vladimir Putin's illegal war, openly relishes the prospect of getting more. He believes Russia is being economically reoriented towards Asia. "What I suspect this whole Ukraine issue is going to mean is that Russia, a country which was actually truly Eurasian, is probably today discovering or is anticipating that a large part of its relationship with the West will no longer work." Meanwhile, India's growth is fuelling its hunger for Russian resources. "It's common sense that the two trends intersect."

Under its urbane first prime minister, Jawaharlal Nehru, India was known for demanding a more moral world order. It can now sound like the world's most untrammelled realist. In truth, the change is not that marked. India was not so much virtuously "non-aligned" as simply marginal to world affairs, because it was weak and introspective. Despite its tendency to grandstand against the West, it was still willing to align itself with America when threatened, as when it accepted its military aid during a war with China in 1962. In recent years, no doubt, it has engaged with America more openly and decisively. Yet the transformative change in India's global position has to do with its fortunes.

Its economic rise has brought it to the centre of global affairs—and Mr Jaishankar predicts demography alone will ensure that growth continues: India "churns out" trained people on a scale no other democratic society can. India's new importance, in turn, is giving it many more opportunities to pursue the same preoccupations—including its economy and territorial integrity—it has always prioritised. And if it seems unusually upfront or unapologetic about those goals, that points to an even more momentous geopolitical change.

The emergence of new great powers—for now China and arguably India; in future perhaps Brazil, Indonesia and Nigeria—is making geopolitics more complicated and prone to the sorts of contradictions and trade-offs that Indian foreign policy embraces. India is not only maintaining its lucrative relationship with Russia as a hedge against the West. It also considers its partnership with Russia a means to limit Russian support for its two major adversaries, Pakistan and China.

Mr Jaishankar insists that those around Joe Biden, America's president, well understand the looser, more uncertain and sometimes contradictory international relations that a multipolar world will foster. "I think they're acutely conscious that the post-1945 order has been severely challenged and that they need a new template, new partners, that they need to look beyond alliance constructs." There is evidence for this, despite Mr Biden's talk of a new "alliance of democracies". In a recent speech, Jake Sullivan, his national security adviser, envisaged a world in which America will pursue its economic self-interest more overtly than it has in recent years, while working with a cast of friends and allies who will do likewise. In describing this apparently more-contingent American-led order, Mr Sullivan used the word "partners" 24 times but "allies" only twice.

Igniting Indo-American co-operation

Perhaps that is the best the West can hope for. Emerging powers such as India, with huge economic needs and complicated domestic politics, will not line up behind America, or for that matter China, in the old cold-war fashion. Whether the new geopolitical reality they represent will be stable is another question. India's relationship with China may be an early test. Always fraught, it is the pole around which revolve America's approach to India, India's receptiveness to America, and ultimately, it might be argued, Asian security.

Home and affray

Mr Jaishankar denies that India's military embrace of America—with whom the Indian armed forces now conduct more exercises than with any other power—has tightened in response to the border clashes of 2020. Yet the Asian powers' territorial dispute is clearly a big factor in their rivalry and, it follows, a spur to defence co-operation between America and India. It is therefore worth pondering the implications for India's ties with America if India and China were to succeed in their current effort to resolve the dispute, at least for now, by negotiating a demilitarised "buffer zone" along their frontier.

Some American strategists are already questioning India's utility on security. As the chief proponent of the civil-nuclear co-operation deal that America negotiated with India in 2005, Ashley Tellis, now of the Carnegie Endowment, a think-tank in Washington, was instrumental in the bilateral rapprochement. Yet, in a recent essay in *Foreign Affairs* entitled "America's bad bet on India", he sought to temper American hopes that India will be a pivotal security partner. India wants American help only to defend itself against possible Chinese aggression, he argued; it cannot be counted on to help America fight China.

Mr Jaishankar will not be drawn on the buffer-zone talks, or, hypothetically, on how a deal might affect Indian relations with China or America. "We know that solving the boundary question will take time," he says, adding that ensuring "peace and tranquillity" and "no acts of violence" should be the minimum condition for "moving the relationship forward". "Unless we find a resolution to that, no government can, at least in my opinion, pretend that everything is OK, and let's do business in every other part of our relationship."

It may be that Mr Tellis and others are worrying too much about India's commitment to America. Over the past two decades, the relationship has developed significant ballast and momentum, based on shared interests, a vigorous Indian-American diaspora and enthusiastic cross-party support in both countries. Most of that will endure. Comparing India with its dysfunctional neighbour, Stephen Cohen, a late scholar of South Asia, used to say that Pakistan was an American ally but never a friend, and India the opposite. That is truer now than ever.

Even so, the doubt about what sort of partnership America and its allies should expect of India, a rising power that rejects alliances and juggles competing priorities, is a significant one. "You have an India which is looking at multiple opportunities across multiple geographies, often polities which have contradictory interests. And it is trying to advance on all fronts," says Mr Jaishankar. It is a good appraisal of India's challenging new role in the world. It also underlines the uncertainties, and threat to stability, that Mr Kissinger warned of in an increasingly multipolar world. ■

India's defence industry

Too good to refuse

DELHI

A new era of defence co-operation between India and America dawns

Both America and India were unmistakably satisfied with the outcome of a visit to Delhi on June 5th by America's defence secretary, Lloyd Austin. When Mr Austin met his Indian counterpart, Rajnath Singh, he offered a deal. The Americans see it as their most generous proposal since a controversial pact in 2005 to co-operate on nuclear power despite India's nuclear-weapons programme. The hope is that India's prime minister, Narendra Modi, will sign a range of agreements on defence during his state visit to America next week.

A pressing concern for both America and India is China's growing assertiveness in what American strategists call "the Indo-Pacific". China's growing navy is more active in the Indian Ocean and its armed forces have been reinforcing on India's northern border (and clashing with Indian troops). Mr Austin's most important offer is a so-called roadmap for defence-industrial co-operation covering technology in such areas as air combat, armoured vehicles, munitions and ISR (intelligence, surveillance and reconnaissance).

India, the world's biggest importer of weapons, has long been desperate to expand its indigenous defence industry,. It has not been easy. A "Make in India" defence policy was launched eight years ago, followed in 2020 by "Atmanirbhar Bharat" (Self-reliant India), when the government raised the maximum stake that could be held by foreigners in joint ventures in defence from 49% to 74%.

However, by the start of last year, foreign direct investment in the defence industry had reached only $380m, against a target of $10bn by 2025. Rahul Roy-Chaudhury of the International Institute for Strategic Studies (IISS), a British think-tank, doubts it will be reached, as most big foreign defence firms will balk at the technology-transfer requirements, especially because of fears that their intellectual property might end up in Russian hands.

The other big lever the Indian government is pulling is to allocate around 75% of the armed forces' capital budget to home-grown purchases. The country's official defence-acquisition arm recently earmarked $8.5bn for spending with local manufacturers by the end of the decade, in the hope that new indigenous light tanks, artillery, missiles and helicopters might reach service by then. There are also four "positive indigenisation lists" that together ban imports of 411 types of weapons and equipment, as well as thousands of components. But it is not yet clear whether the Indian defence industry can provide suitable substitutes, nor whether the country's sometimes picky armed forces will accept them.

That is why America thinks its offer is attractive. The most eye-catching element could be a deal for India to manufacture under licence General Electric's GE-F414 jet engine, which is found in Boeing's F-18 Super Hornet and Saab's Gripen. The powerful turbofan engine would be produced at a new factory by the state-owned Hindustan Aeronautics Ltd (HAL) and would be used to power HAL's Tejas Mk2 light combat aircraft, which is still under prototype development (and possibly the highly ambitious Advanced Medium Combat Aircraft, a proposed fifth-generation fighter with radar-beating stealth characteristics). But to get the amount of technology transfer India wants from GE requires both America's Congress to issue an exemption and GE to go along—both possible roadblocks.

Mr Austin's proposals may also be welcome in Delhi because India's faith in Russia, by far its biggest arms supplier, has ebbed, especially since the invasion of Ukraine. According to SIPRI, a think-tank, Russia's share of India's weapons imports fell in the four years to 2022 from 64% to 45% (France is second with 29%; America has only 11%). But data from IISS's Military Balance show how much India still depends on Russia. More than 90% of its armoured vehicles, 69% of its combat aircraft and 44% of its surface warships and submarines are Russian or made under a Russian licence.

Russian weapons cost less than Western ones, and Russia imposes fewer conditions on their use and fusses less about technology transfer. However, Russia's largely state-controlled arms industry has prioritised Russian forces in Ukraine over even its biggest customers. India is still awaiting delivery of two of the five S-400

There's an upgrade on the horizon

surface-to-air missile systems for which it agreed to pay Russia $5.4bn in 2018. Much worse, an increasing number of India's combat aircraft are grounded for lack of spare parts. Back in March of last year, an air force officer told parliament's defence committee that "a very large number" of India's 272 Su-30s, the country's most potent jet fighters, were inoperable. The "sick list" will have grown since then. Sanctions on Russia have also sapped the capacity of its arms industry.

But reducing India's dependence on Russia will take time. India will still need Russia for some technology, such as the nuclear reactors for submarines, that it will not get elsewhere. Fully reshaping India's armed forces with Western and home-made equipment could take decades rather than years, even if India buys no big new weapons systems from Russia.

India has also shown itself in the past to be a difficult customer. After France reached an agreement to sell Rafale fighter jets to India in 2012, it took nearly nine years for the first planes to arrive. During that time the order was cut from 126 to 36, partly because the original manufacturer, Dassault, feared that HAL would struggle to make the complex plane under licence. Over the years, every aspect of the deal became mired in mutual accusations of cronyism and corruption. On a trip to France next month, Mr Modi is expected to sign a new deal for up to 50 Rafales. However, it seems they will all be made in France.

Mr Austin's proposed roadmap sets America and India on what may still be a long and winding path. But the map's very existence suggests both sides see the relationship as vital. And, adds Mr Roy-Chaudhury, the direction of travel is clear. ■

Banyan Why is Modi so popular?

The prime minister's Muslim-bashing is not the main reason

GANESHA KANOJIA does not consider himself a Bharatiya Janata Party supporter. The 58-year-old auto-rickshaw driver has mostly voted for the Congress party, as members of his low-caste Dalit group tend to. In local elections in Delhi, where he lives, he still disdains the BJP, because he dislikes its Hindu supremacist ideology. But in general elections, including one due next year, Mr Kanojia is a safe BJP vote. "Because of Modi-ji," he explains.

This illustrates one of the most remarkable developments in global politics. Over the past nine years the BJP has emerged, in two general elections and dozens of state ones, as India's biggest party. Yet it is far short of having a popular majority. It controls only half of India's 28 states. In general elections, it seems nonetheless to have a lock on power, for the next five years and probably more, thanks to the popularity of Narendra Modi. With an approval rating of 77%, the prime minister is more than twice as popular as his party. He is by far the world's most popular elected leader.

Conversations with political scientists and a cross-section of Modi fans suggest three main reasons for this phenomenon. Mr Modi is benefiting from a combination of good luck, political brilliance and ruthlessness.

He is lucky in his opposition, which is not merely a shambles, but a sort of shambles that plays to his strength. Contrary to the story he tells, India's economy has not done better under his government than under its Congress-led predecessors. Yet under its weak, uncharismatic fourth-generation dynastic leader, Rahul Gandhi, Congress has failed to lay claim to this success, let alone promise a repeat performance.

It has also been tarred by Mr Modi's most effective populist claim, that he represents the triumph of vernacular, battling India over its complacent Anglophone former rulers. Mr Gandhi is half Italian and, like his father, grandmother and great-grandfather, all Indian prime ministers, Oxbridge-educated. Mr Modi was born poor, is largely self-taught and, partly because that describes millions of Indians, hugely admired for it. Another Cambridge-educated Congress luminary once dismissed him as a *chaiwala* (tea-seller)—which he was. No political barb has backfired more disastrously.

Mr Modi's genius is his ability to capture the political narrative in such ways. He is adept at reading mass sentiment and, as a relentless campaigner, courts it as no other Indian leader has since Indira Gandhi, or even more. Also like Mrs Gandhi, he claims credit for everything his government has achieved—and much that it has not. His smiling image, ubiquitous on billboards, is the face of welfare schemes, infrastructure projects and diplomatic shindigs. In a time of tumultuous change, many Indians crave a kingly figure whom they can thank for the progress they hope for, and trust to manage the uncertainties they fear. "Only Modi knows how to implement things," says Rajdip Ghosh, a 34-year-old IT professional in Kolkata (who was named after Mr Gandhi's father, Rajiv). "Modi-ji is providing so many houses for the poor," says Narendra Yadav, a 55-year-old driver in Delhi. "During the pandemic Modi-ji saved so many lives."

Asked to give a relative weighting to these factors, Sanjay Kumar, a psephologist, attributed 20% of Mr Modi's popularity to the ineffectiveness of his opponents and 65% to his political skills. He attributed only 15% to the prime minister's ruthlessness—which could seem surprising, given how conspicuous it is.

Mr Modi is closely associated with his party's Hindu chauvinism, owing to a vicious pogrom against Muslims in Gujarat in 2002, while he was the state's chief minister. He denies having any link to the atrocity, but has never really condemned it. Nor does he chastise the Hindu zealots who man his campaigns while openly inciting violence against Muslims. It is good to know most Modi fans are not mainly drawn by his party's Muslim-bashing. It is sobering to ask why, then, does he not stop it?

Mr Modi has also ranged into other sorts of illiberalism. His critics in the media have been cowed into silence. India's parliament, civil service and judiciary have been bent to his will—as demonstrated in March, when Mr Gandhi was convicted of bogus charges levelled by a BJP lawmaker and disqualified from parliament. Again, the fact that Mr Modi's popularity is not dependent on such activities is comforting only to a degree. It suggests his illiberalism is less strategic than compulsive.

America, China and Cuba

Not another crisis

The two superpowers try to move past a new bump in relations

FEW AMERICANS would ever forget those chilling 18 minutes in the evening of October 22nd 1962. As they gathered around their radios and televisions, their president, John F. Kennedy, revealed that the Soviet Union had moved nuclear-capable missiles to Cuba, 90 miles (140km) from the coast of Florida. America would blockade the island until they were removed, he said. It was the first the public learned of the crisis that over the next five days would bring the world to the brink of nuclear war.

Analogies with that episode were perhaps inevitable when the *Wall Street Journal*, followed by several other American media outlets, reported on June 8th that China had made a secret agreement to establish a listening station in Cuba. Senators from both sides of the aisle urged the White House to take preventative action. Mike Gallagher, a Republican congressman who chairs the House of Representatives' new bipartisan Select Committee on the Chinese Communist Party, warned that a new cold war "once again, has come to our doorstep". He even quoted from Kennedy's address that night in 1962.

Yet such comparisons are undue. The White House, having initially dismissed the reports as inaccurate, now says that China has gathered signals intelligence from Cuba for some time and upgraded its facilities there in 2019. Officials say they have shared their concerns with Cuba and successfully lobbied other governments not to host Chinese military or spying outposts. Despite the furore, America's secretary of state, Antony Blinken (pictured), will go ahead with a long-delayed visit to Beijing—his first in that role—on June 18th.

Chinese eavesdropping in Cuba is, indeed, nothing new. A report from the US Army War College's Strategic Studies Institute in 2011 suggested that China had access to three listening stations there, at Bejucal, Santiago de Cuba and Lourdes. It was using them to intercept radio and mobile-phone transmissions, and to conduct cyber-espionage, the report said. The Lourdes facility, just outside Havana, was the Soviet Union's biggest overseas listening station and used by Russia until the early 2000s.

→ Also in this section

52 China, Taiwan and a sea goddess

53 The pink-dress affair

54 Chaguan: The party's legitimacy trap

Dennis Wilder, a former China analyst at the CIA and now a professor at Georgetown University, says he had been aware of China's use of Cuba for electronic eavesdropping since the end of the cold war. The facilities there, he says, are most likely operated by the Third Department of the People's Liberation Army Joint Staff Department (often referred to as 3PLA and roughly equivalent to America's National Security Agency). Other 3PLA sites may include North Korea, Pakistan and Djibouti, where China opened its first (and only) overseas military base in 2017.

China is probably using facilities in Cuba to try to hoover up information related to American satellite systems, Mr Wilder suggests, and the recent upgrades may have involved installing bigger, more powerful data-gathering equipment, which is often contained in large round structures known as radomes. "That's the kind of thing that I think that the Chinese are trying to put in Cuba—very large arrays with tremendous capability," he says. "That kind of capability would be very, very useful to the Chinese military."

Troubling as that may be for America, it has few good options to respond. China and Cuba have both denied the media reports and the Biden administration's subsequent allegations. Anyway, such facilities do not violate international law. And America is thought to have many similar sites in countries around the world, including Japan, South Korea, Taiwan and Australia, and uses them to gather signals intelligence on China. So America is unlikely seriously to escalate its protests over any such Chinese activity in Cuba.

China, meanwhile, is using the controversy to highlight what it sees as American hypocrisy. "Slanders and smears" would not obscure America's "deplorable track record of indiscriminate mass spying around the world", a foreign-ministry spokesman said on June 12th. In a call with Mr Blinken two days later, Qin Gang, China's foreign minister (pictured), rebuked America for harming China's security. But both sides have confirmed Mr Blinken's trip. And though American officials do not expect breakthroughs on a lengthy agenda, including Taiwan and Ukraine, they hope the visit will help to establish better lines of communication. "Intense competition requires intense diplomacy," said one.

That will come as a relief to many other countries, especially in Asia. They worried that tensions were spiralling out of control in February when America shot down a Chinese high-altitude balloon that the Pentagon said had been monitoring American military bases. China said the balloon was gathering meteorological data, but the White House rejected that explanation and postponed a visit by Mr Blinken that had been scheduled for later that month.

The effect was to stall efforts to stabilise relations that President Joe Biden and his Chinese counterpart, Xi Jinping, began when they met in Bali in November. In the past few weeks, however, there has been a swirl of high-level contacts, including a visit to Beijing in May by William Burns, the CIA chief. Jake Sullivan, America's national-security adviser, also met Wang Yi, China's top diplomat, in Vienna that month. Economic officials have met, too.

Resuming high-level talks is important because it means the two sides can at least communicate their positions in private. That is preferable to doing so in heated public exchanges as they have for much of the time since a visit to Taiwan in August by Nancy Pelosi, then the speaker of America's House of Representatives. Direct contacts could also facilitate progress on some technical and commercial issues, which would smooth the way for Mr Xi's expected attendance of the Asia-Pacific Economic Co-operation forum in San Francisco in November. Mr Blinken's trip could open the door, too, for others whom China is more interested in receiving, such as America's treasury secretary, Janet Yellen, and climate envoy, John Kerry.

Even so, the Cuba controversy is a reminder that high-level strategic tensions endure—and will not be easily resolved. That was also clear when China's defence minister, Li Shangfu, refused to hold talks with America's defence secretary, Lloyd Austin, at a security conference in Singapore in early June (China wants American sanctions on General Li lifted first). In their public statements, General Li warned America and its allies to stop surveillance operations near China's coast, while Mr Austin cited an "alarming increase" in unsafe Chinese intercepts of American and allied ships and aircraft.

The Cuban contretemps also feeds into a domestic political climate in both China and America that is making it harder for their leaders to compromise on any substantial issues. And their room for manoeuvre could shrink further in the coming months, with a presidential election due in Taiwan in January and campaigning for America's presidential poll expected to start in earnest this August with the first Republican primary debate.

The level of hostility towards China on both sides of the aisle in Congress was writ large in responses to the Cuba reports. "We urge the Biden administration to take steps to prevent this serious threat to our national security and sovereignty," said Mark Warner, the Democrat who chairs the Senate Intelligence Committee, and Marco Rubio, the Republican vice-chairman. Mr Gallagher accused the Biden administration of whitewashing Chinese aggression. "We must make it clear that, as President Kennedy said over 60 years ago on the eve of a previous crisis in Cuba, 'One path we shall never choose, and that is the path of surrender or submission.'" ■

Religion and influence

Mazu for the motherland

YUANLIN

China hopes a beloved sea goddess can help it win over Taiwan

THE SLEEPY town of Yuanlin in central Taiwan is transformed when Mazu passes through. The maiden-turned-goddess lived in southern China during the tenth century—and, according to legend, used her mystical powers to save relatives from a shipwreck. Despite her roots in the mainland, she is widely worshipped in Taiwan. Each year her statue is carried across the island on a multi-day tour. In Yuanlin she was greeted by firecrackers and prostrate devotees. One woman burst into tears. Mazu healed her from cancer and protected her from covid-19, she says.

Officials in Beijing hope Mazu will help them in a different way. The United Front Work Department, the Communist Party branch with the job of boosting China's influence abroad, views the goddess as a tool to win Taiwanese hearts and minds.

Mazu—or Lin Moniang, as she was known before becoming a goddess—hailed from a small fishing village on the island of Meizhou in the province of Fujian. Today worshippers make pilgrimages to her ancestral temple there. That is useful to China, which has been supporting Mazu-related cultural exchanges with Taiwan since the late 1990s. Local offices of the United Front talk openly of using Mazu to "strengthen Taiwan's patriotic unification force". If they can turn Taiwan's love of Mazu into love of the motherland, that would make it easier to peacefully bring Taiwan back under the mainland's rule.

In recent years China has taken a hardline approach to Taiwan, buzzing its airspace with military jets and performing drills around the island. But with covid restrictions lifted and a Taiwanese presidential election scheduled for next year, China's influence operations are increasing. In February the head of the Taiwan Mazu Fellowship, a large network of temples, met Song Tao, the head of China's Taiwan Affairs Office in Beijing. They discussed how Mazu could play a role in promoting "one family" on both sides of the Taiwan Strait, according to Chinese state media.

At Tai'an Gong, a small temple in Taipei that belongs to the Taiwan Mazu Fellowship, two elders proudly point to a gilded plaque that they received from the Meizhou temple. Every time representatives of Tai'an Gong visit, they are feted with banquets, says one of the elders. The leaders of each temple are "like brothers", he says. In some cases they are also business partners.

A unifying figure?

The head of the temple in Meizhou is a member of China's People's Political Consultative Conference, a government advisory body. But the cultural exchanges are "not political", insists Ah Sen, a director at Tai'an Gong. He points to calendars on the wall from different temple associations in Taiwan, some of which favour unification, whereas others back independence. Those who take part in the trips to Meizhou already lean a certain way, so they will not change their minds, he says. And at Tai'an Gong it does not matter which party worshippers support; everyone comes for Mazu. The two elders agree, sharing stories of how the goddess saved them from car accidents and stockmarket crashes.

It is difficult to assess the impact of China's Mazu-related efforts. Many factors influence how a Taiwanese person votes and what they think about China. The views of temple leaders are not that important, says Ku Ming-chun, a sociologist at Taiwan's National Tsing Hua University. Worshippers do not feel a need to be politically aligned with them. But China uses the cultural exchanges to sow disinformation. Delegations of Taiwanese pilgrims often form chat groups that become platforms for Chinese propaganda, says Ms Ku.

Chang Kuei-min of National Taiwan University says China has created a narrative in which the Communist Party is a champion of folk religion, while Taiwan's government opposes it. Before Ms Chang went on a religious exchange to China in 2019, a temple elder warned her that she might be questioned by Taiwan's security services on her return. She saw this as a regurgitation of Chinese propaganda. In Beijing, she says, officials spoke of how Taiwan's government was politicising religion. "Surely Mazu is not an agent of the Communist Party?" they would say, according to Ms Chang. Of course, that is exactly what the party wants Mazu to be. ■

Holding officials to account

The pink-dress affair

BEIJING

The Communist Party's tolerance for public oversight is limited

PUBLIC DISPLAYS of affection can have dire consequences in China. Just ask Hu Jiyong. The boss (and Communist Party secretary) of the subsidiary of a state-owned firm held hands with a female subordinate as they strolled through Chengdu this month. Her pink dress caught the attention of a fashion photographer, who posted a video of the couple online. A commenter recognised Mr Hu and said that he was married to another woman.

Having a mistress is often seen as a sign of official corruption in China. So netizens launched what is known as a "human-flesh search"—a kind of crowdsourced investigation. They dug up photos that suggested the woman was spending lavishly. A formal investigation of Mr Hu was launched by anti-corruption authorities (no proof has yet emerged of wrongdoing). Both he and his companion have been suspended from their jobs. Adultery, while not illegal in China, is against party rules.

Some joke that the authorities should rely more on street photographers. Such humour highlights the party's complicated relationship with individuals and groups that expose wrongdoing. Officials are supposed to submit to the "democratic supervision" of the people. Citizens have long helped to reveal misdeeds. In one rather infamous case, in 2008, footage emerged of a man in a hotel arguing with a couple who had accused him of assaulting their daughter. "I rank as high as your mayor. How dare you quarrel with me," he said. After online sleuths worked out his name and party rank, he was fired.

When it comes to adultery, sometimes little investigation is needed. In the 2010s a string of officials were brought down by scorned mistresses who took to social media. One, called Ji Yingnan, posted details of her luxurious lifestyle after discovering that her lover, an official at the National Archives Administration, was married.

But the party's tolerance for public supervision is limited. In 2014 the authorities accused members of the "New Citizens' Movement" of organising protests featuring banners that urged officials to declare their assets. Three of the activists were given prison sentences. In 2017 a commentary in the *People's Daily*, a party mouthpiece, warned that online corruption investigations could threaten social stability by stirring up resentment of officials and the rich. "The government must guide people's emotions…to create a rational, peaceful and positive public opinion," it argued.

The party's reaction seems to depend in part on the rank of the alleged offender and, thus, the risk to its reputation. In 2021 Peng Shuai, a professional tennis player, revealed on social media that she had been in a years-long extramarital affair with Zhang Gaoli, a former member of the Politburo Standing Committee, the party's top leaders. She accused him of sexual assault. Censors quickly scrubbed her post from the internet and Ms Peng disappeared for two weeks. After re-emerging, she denied she had made the accusation.

Things have gone differently in Mr Hu's case. Under the law, human-flesh searches are banned. Officials criticise them for violating privacy and leading to cyber-bullying. (Mr Hu's companion has been the target of online attacks.) But the party seems to think that the furore surrounding the executive is manageable—and perhaps even useful if it helps deter such behaviour. ■

Casual photography or anti-corruption campaign?

Chaguan | The party's legitimacy trap

Xi Jinping reaches into China's ancient history for a new claim to rule

For decades outsiders have told a simple story about the ties that bind China's Communist Party and its people. This story describes a bargain between rulers and subjects, in rather condescending terms. In this telling, most Chinese people, from the toiling masses to the urban middle classes, know to avoid talking or thinking about politics. And in exchange for shunning the world of power, citizens are allowed to compete for their share of the wealth and opportunities generated by a rising China. Recently—as China's economy slows, house prices slide and job opportunities for new graduates dwindle—the same outsiders have taken to wondering whether the public might turn on the party.

In fact, that economically focused description of China's social compact understates the party's ambitions, certainly since Xi Jinping took over as supreme leader 11 years ago. Mr Xi has for some time played down the pursuit of material wealth as a national cause and put politics—albeit in a strictly policed, top-down form—back at the centre of daily life. He has enjoyed considerable success, at least to date. A striking number of citizens—and especially those born after 1990, who have known only ever-growing national wealth and strength—have been ready to believe that, on balance, China succeeds because of its stern, one-party political system, not despite it.

When unelected governments or autocracies claim that they deserve to rule because they govern well and efficiently, political scientists talk of appeals to "performance legitimacy". In this vein, the first two years of the covid-19 pandemic were a particular gift to party ideologues. Day after day, the propaganda machine pumped out news of the latest covid death toll in America, backed by images of patients on ventilators in Western hospitals, recycled clips of President Donald Trump scorning science at White House press conferences, and protests in Western cities against lockdowns, mask-wearing and vaccine mandates. For sure, censorship was heavy and omnipresent, and locked-down Chinese chafed against thuggish enforcement of zero-covid rules, especially as the pandemic dragged on. On balance, though, boasts of Chinese exceptionalism rang true for many citizens. Party ideologues hailed Mr Xi as commander-in-chief of a people's war against covid, offering China order and safety, in contrast with squabbling, selfish, Western democracies.

Alongside boasts about the party's governing competence, Mr Xi has offered darker calls for China to become self-reliant and learn to struggle against foreign foes. In speeches he talks of China's re-emergence as a great power, and how that will involve defying a hostile American-led West bent on containment. Such talk of dangers serves more than one purpose. It unifies the masses, while turning anyone with conflicting views into an enemy within. For in times of peril, dissent by underlings is a form of sabotage, like a sailor arguing with the captain of a storm-tossed ship.

Yet a mandate to rule based on the claim that the party is exceptionally competent, and indeed is successful because it brooks no dissent, becomes a trap when top leaders mess up. A decisive, though tyrannical, captain quickly becomes a liability if he repeatedly steers the ship of state onto rocks. An unusually candid essay by two Chinese scholars, Fu Yu and Gui Yong, describes a crisis of confidence among the young. The work, based in part on surveys of social media, is flagged and translated by David Ownby of the University of Montreal on his "Reading the China Dream" blog.

Focusing on Chinese born after the 1990s, it describes a gap between their patriotism and high expectations of their rulers, and the realities of a society that seems to them cruelly unequal, to the point that hard-working provincial Chinese can never catch up with those born into privilege. First published in 2022 and reissued last month by an academic journal, the *Beijing Cultural Review*, the essay, "The Five Intriguing Paradoxes of Contemporary Chinese Young People", describes youngsters who have turned against "evil" private capital and want a strong state to tame it. Some are suffering "crises of belief" that are leading many to shun marriage and decline to have children. Worse, since the piece was first published, the country has endured the sudden, bungled collapse of its zero-covid policy and the concealment of large numbers of deaths, further undermining public confidence.

A new pitch, for a slower-growing China

Not unrelatedly perhaps, on June 2nd Mr Xi outlined his broadest-yet claim to rule, based on China's exceptional culture. He called China the only civilisation to be uninterrupted over many millennia. As if suggesting that convergence with liberal values would betray every dynasty that preceded him, Mr Xi declared: "The fact that Chinese civilisation is highly consistent is the fundamental reason why the Chinese nation must follow its own path." Because Chinese civilisation is unusually uniform, Mr Xi went on, different ethnic groups must be integrated and the nation unified: code for imposing Chinese culture on Tibet and other regions, and for taking back Taiwan. For anyone puzzled that a once-revolutionary party now calls itself the "faithful inheritor" of "excellent traditional culture" (plus a dose of Marxism), the *People's Daily* weighed in with commentaries explaining why Mr Xi's emphasis on cultural confidence is vital in a perilous moment when "strategic opportunities, risks and challenges co-exist". Economic heft is not enough, the newspaper added. If China's economy develops but its spirit is lost, "Can the country be called strong?"

Take a step back, and Mr Xi is crafting an appeal to what might be termed civilisational legitimacy. When the public is disappointed by a slowing economy and by the pandemic's incompetent ending, this gambit must be tempting. After all, who will dare challenge a mandate to rule that is supposedly unchanged in 5,000 years? How foreign governments are supposed to engage with such chauvinism is a different and worrying question. ■

The Indian diaspora

Making it as migrants

NEW YORK

India's diaspora is bigger and more influential than any in history

HAVING JUST surpassed China as the world's most populous country, India contains more than 1.4bn people. What's more, its migrants are both more numerous and more successful than their Chinese peers. The Indian diaspora has been the largest in the world since 2010, and is a powerful resource for India's government.

Of the 281m migrants spread around the globe today—generally defined as people who live outside the country where they were born—almost 18m are Indians, according to the latest UN estimates from 2020 (see chart 1 on the next page). Mexican migrants, who comprise the second-biggest group, number some 11.2m. Chinese abroad come to 10.5m.

Understanding how and why Indians have triumphed abroad, whereas Chinese have tended to sow suspicion, illuminates geopolitical faultlines. Comparing the two groups also reveals the extent of Indian achievement. The diaspora's wins both promote India's image and benefit its prime minister, Narendra Modi.

Migrants have stronger ties to their motherlands than their descendants born abroad, and so build vital links between their adopted homes and their birthplaces. In 2022 India's inward remittances hit a record of almost $108bn, around 3% of GDP, more than in any other country. And overseas Indians with contacts, language skills and know-how boost cross-border trade and investment.

Huge numbers of second-, third- and fourth-generation Chinese live abroad, notably in South-East Asia, America and Canada. But in many rich countries, including America and Britain, the Indian-born population exceeds the Chinese-born.

Indian-born migrants are found across the world (see chart 2 on the next page), with 2.7m living in America, more than 835,000 in Britain, 720,000 in Canada, and 579,000 in Australia. Young Indians flock to the Middle East, where low-skilled construction and hospitality jobs are better paid. There are 3.5m Indian migrants in the United Arab Emirates and 2.5m in Saudi Arabia (where the UN counts Indian citizens as a proxy for the Indian-born population). Many more dwell in Africa and other parts of Asia and the Caribbean.

India has the essential ingredients to be a leading exporter of talent: a mass of young people and first-class higher education. Indians' mastery of English, a legacy of British colonial rule, probably helps, too. Only 22% of Indian immigrants in America above the age of five say they have no more than a limited command of English, compared with 57% of Chinese immigrants, according to the Migration Policy Institute (MPI), an American think-tank.

The way things were

Since Indian independence in 1947 there have been several waves of migration to the rich world, enabling the diaspora to grow in number and might. The first, in the years following the second world war, involved low-skilled workers largely from the states of Gujarat and Punjab. A multitude went to Britain, which was facing acute labour shortages. They worked in ⏩

tough places, such as textile mills and other industrial outfits. Many Indians whose families had moved to eastern Africa in the colonial period as indentured labourers later went west, too. America managed to attract a host of talented individuals by overhauling its immigration laws in 1965. Quotas that barred Indian nationals were out, new rules that favoured highly skilled migrants were in. Australia and Canada then followed suit with batches of similar regulations.

As the Indian diaspora has grown, it has also become more diverse. An increasing number of Indians from poor and marginalised backgrounds are moving abroad. Of Indian-Americans that identify with a caste group, in a 2020 survey published by the Carnegie Endowment for International Peace, a think-tank in Washington, DC, 17% described themselves as lower-caste. Migrants no longer come mainly from Gujarat and Punjab. South Indians are emigrating in droves. The American consulate in the southern city of Hyderabad is the largest outpost that America has in southern Asia. Meanwhile, the fastest-growing language in America is Telugu, which is spoken almost exclusively in the south of India.

Brains on the move

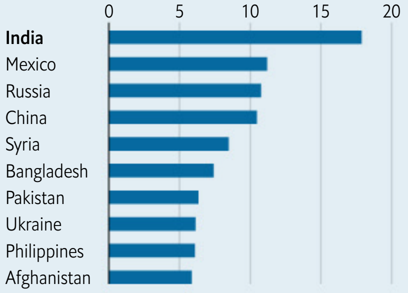
As India's population expands over the coming decades, its people will continue to move overseas to find lucrative jobs and to escape its ferocious heat. Immigration rules in the rich world filter for graduates who can work in professions with demand for more employees, such as medicine and information technology. In 2022 73% of America's H-1B visas, which are given to skilled workers in "speciality occupations" such as computer scientists, were won by people born in India.

Many of India's best and brightest seem to prepare themselves to migrate. Arvind Subramanian, a former economic adviser to the Indian government, says that they are, in the economic jargon, "highly positively selected migrants". Consider the findings of a paper soon to be published in the *Journal of Development Economics* by Prithwiraj Choudhury of Harvard Business School, Ina Ganguli of the University of Massachusetts Amherst and Patrick Gaule of the University of Bristol. It analysed the results of students who took the highly competitive entrance exams for the Indian Institutes of Technology, the country's elite engineering schools, in 2010. Eight years later, the researchers found that 36% of the 1,000 best performers had migrated abroad, rising to 62% among the 100 best. Most went to America.

Another study looked at the top 20% of researchers in artificial intelligence (defined as those who had papers accepted for a competitive conference in 2019). It found that 8% did their first degree in India. But only a tiny number of researchers now work there.

First-mover advantage 1

Top ten origin countries of international migrants, 2020, m



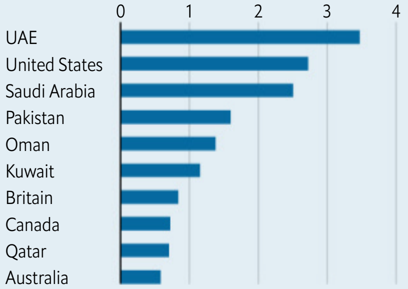
Source: UN DESA

In America almost 80% of the Indian-born population over school age have at least an undergraduate degree, according to number-crunching by Jeanne Batalova at the MPI. Just 50% of the Chinese-born population and 30% of the total population can say the same. It is a similar story in Australia, where almost two-thirds of the Indian-born population over school age, half the Chinese-born and just one-third of the total population have a bachelor's or higher degree. Other rich countries do not collect comparable data. But looking at the figures that are available, the same pattern seems to hold almost everywhere.

Joseph Nye, a Harvard professor who coined the term "soft power" more than three decades ago, notes that such power is not automatically created by the mere presence of a diaspora. "But if you have people in the diaspora who are successful and create a positive image of the country from which they came, that helps their native country." And, as he adds, "India has a lot of very poor people, but they are not the people coming to the United States." According to Henley and Partners, a consultancy, more dollar millionaires (about 7,500) emigrated from India last year than from anywhere but China and Russia.

Hello, Dubai 2

Top ten destination countries for Indian migrants, 2020, m



Source: UN DESA

Indeed Indian migrants are relatively wealthy even in the countries they have moved to. Indians are the highest-earning migrant group in America, with a median household income of almost $150,000 per year. That is double the national average and well ahead of Chinese migrants, with a median household income of over $95,000. In Australia the median household income among Indian migrants is close to $87,000 per year, compared with an average of roughly $62,000 across all households and about $58,000 among the Chinese-born.

The might of the Indian diaspora is increasingly on display at the pinnacle of business and the apex of government. Devesh Kapur and Aditi Mahesh at Johns Hopkins University totted up the number of people with Indian roots in top jobs, including those born in India and those whose forebears were. They identified 25 chief executives at S&P 500 companies of Indian descent, up from 11 a decade ago. Given the large number of Indian-origin executives in other senior positions at these companies, that figure is almost sure to rise further.

Up at the top

It is only recently that Indians abroad have begun to win such prestigious posts. Meghnad Desai was one of a handful of Indians at American universities when he won a scholarship to the University of Pennsylvania in 1960. He points out that the diaspora wasn't rich or powerful back then. "I remember people saying: 'Americans will never have Indians in top positions'," he recalls.

In the tech industry, Vinod Khosla, co-founder of Sun Microsystems, a computer-maker, explains that it was difficult for Indian entrepreneurs to raise money in 1980s America. "You were people with a funny accent and a hard-to-pronounce name and you had to pass a higher bar," he says. Now Adobe, Alphabet, Google's corporate parent, IBM and Microsoft are all led by people of Indian descent. The deans at three of the five leading business schools, including Harvard Business School, are as well.

The Indian diaspora is also thriving in the world of politics and policy. The Johns Hopkins researchers counted 19 people of Indian heritage in Britain's House of Commons, including the prime minister, Rishi Sunak. They identified six in the Australian parliament and five in America's Congress. America's vice-president, Kamala Harris, was raised by her Tamil Indian mother. And Ajay Banga, born in Pune in western India, was chosen to lead the World Bank last month after running MasterCard for more than a decade.

The Chinese diaspora is the only other group with comparable influence around the world. An analysis by *The Economist* ▸▸

conducted as the covid-19 pandemic began estimated that more than three-quarters of the total $369bn of billionaire wealth in South-East Asia is controlled by *huaqiao*, a Mandarin term for the ethnic Chinese who are citizens of other countries.

In Europe and across North America the picture is somewhat different. There are fewer bosses of Chinese descent running S&P 500 companies than there are bosses of Indian descent. That may be because many of the most successful business types choose to stay in China, working for Chinese funds and investing in fast-growing Chinese businesses, like Xiaomi, a smartphone-maker, Baidu, an internet-search giant, and ByteDance, the Beijing-based parent company of TikTok, a social-media app crammed with videos.

Indian rules

Moreover, as America drifts towards a new cold war with China, Westerners increasingly see the country as an enemy. The covid-19 pandemic, which began in the Chinese city of Wuhan, probably made matters worse. Recent scares—the appearance of a Chinese spy-balloon over America in late January, and reports this month that China had reached an agreement with the Cuban government to set up an electronic-eavesdropping station on the island—have further sharpened the image of China as a hostile adversary. In a recent survey of Americans' attitudes by Gallup, a pollster, 84% of respondents said they viewed China mostly or very unfavourably. On India, only 27% of people asked said they held the same negative views.

This mistrust of China percolates through policy. Huawei, a Chinese telecoms-equipment manufacturer suspected in the past of embargo-busting and of being a conduit for Chinese government spying, has been banned in America. Some European countries are following suit. Stringent reviews of foreign investments in American companies on national-security grounds openly target Chinese money in Silicon Valley. Individuals found to be doing China's bidding, including one ex-Harvard professor, have been punished. Indian firms do not face such scrutiny.

The Indian government, by contrast, has been—at least until Mr Modi and his Hindu nationalist Bharatiya Janata Party (BJP) took over—filled with people whose view of the world had been at least partly shaped by an education in the West. India's first prime minister, Jawaharlal Nehru, studied at Cambridge. Mr Modi's predecessor, Manmohan Singh, went to both Oxford and Cambridge. When Mr Modi took the reins, the central bank was run by Raghuram Rajan, a former IMF official and professor at the University of Chicago.

India's claims to be a democracy steeped in liberal values help its diaspora integrate more readily in the West. The diaspora in turn then binds India to the West. A stunning example of this came in 2005, when America struck an agreement that, in effect, recognised India as a nuclear power, despite its refusal to sign the Nuclear Non-Proliferation Treaty (along with Pakistan and Israel). Lobbying and fundraising by Indian-Americans helped push the deal through Congress.

The Indian diaspora gets involved in politics back in India, too. Ahead of the 2014 general election, when Mr Modi first swept to power, one estimate suggests more than 8,000 overseas Indians from Britain and America flew to India to join his campaign. Hordes of others used text messages and social media to turn out BJP votes from afar. They contributed unknown sums of money to the campaign.

It is Mr Modi himself that interests many. When he visited Australia in May the highlight of his trip was a rally for the Indian diaspora held at a 21,000-seat stadium fit for a rock star. In his speech, Mr Modi celebrated Indian-Australians as a "living bridge" between the two countries. Courting the diaspora is likely once again to be at the top of Mr Modi's agenda during his forthcoming state visit to America. His previous audiences with Indian-Americans include a rally for 18,000 at Madison Square Garden in New York in 2014 and a "Howdy Modi" rally for 50,000 in Houston back in 2019.

Away from any crowds, Joe Biden will play host to talks with Mr Modi on June 22nd. The pair will discuss their countries' "commitment to a free, open, prosperous and secure Indo-Pacific", among several other topics. The discussions may be difficult. Under Mr Modi, India's ties to the West have been tested. Reasserting its status as a non-aligned power, India has refused to condemn Russia's invasion of Ukraine, and stocked up on cheap Russian oil and fertiliser. India has talked loudly of promoting the interests of developing countries as chair of the G20 forum this year. It is also an important voice in the BRICS grouping, a forum which includes Brazil, Russia, China and South Africa alongside India. The club is considering whether to let Saudi Arabia and Iran join.

Mutually assured attraction

At home, officials spew reams of nationalist rhetoric that pleases right-wing Hindu hotheads. And liberal freedoms have come under attack. In March Rahul Gandhi, who is the leader of the opposition Congress party, was disqualified from parliament on a spurious defamation charge after an Indian court convicted him of criminal defamation. Meanwhile journalists are harassed and their offices raided by the authorities.

Mr Nye of Harvard warns that the chauvinist brand of Hindu nationalism Mr Modi is pushing in India puts the country's reputation at risk. Next year's elections are likely to see rising religious tensions and a further erosion of democratic norms. "India likes to boast that it is the largest democracy in the world," Mr Nye says. "To the extent that it doesn't live up to that, it hurts Indian soft power."

But overseas Indians help limit the damage and ensure neither India nor the West gives up on the other. Mr Modi knows he cannot afford to lose their support and that forcing hyphenated Indians to pick sides is out of the question. At a time when China and its friends want to face down a world order set by its rivals, it is vital for the West to keep India on-side. Despite its backsliding, it remains invaluable—much like its migrants. ■

From London with love

Business

Sino-Western commerce

Spooked

SHANGHAI

China is becoming an impossible place for foreigners to do business

JUDGING PURELY by the steady stream of Western executives crossing the Pacific, China is picking up where it left off before the onset of covid-19. In the past couple of weeks Elon Musk of Tesla, an electric-car maker, met officials in Beijing on his first trip to the country in more than three years. At the same time Jamie Dimon of JPMorgan Chase, America's biggest bank, was hosting a conference in Shanghai that brought together more than 2,500 clients from around the world. Hundreds of business bigwigs have made similar trips in the past three months. President Xi Jinping's top officials have been greeting them with the mantra that, after a pandemic hiatus, "China is back in business."

Once the executives settle in, though, many are finding the place a lot less welcoming. In April the government strengthened an already strict anti-espionage law and, according to the *Wall Street Journal*, put China's spymaster in charge of cracking down on security threats posed by American firms. Officials invoke hazily worded data-related laws introduced during the pandemic, which perplex many foreign businesses, American or otherwise. Something as innocent as sharing an email signature, considered under some interpretations of Chinese data laws as personal information, with a recipient abroad can get you into hot water.

The space for foreign businesses in China was already being constrained by restrictions that their own governments, led by America's, have placed on Chinese firms amid geopolitical tensions; more than 9,000 Chinese firms have been hit by Western sanctions, according to Wirescreen, a data provider. Now Mr Xi is shrinking businesses' room for manoeuvre further.

→ Also in this section

60 Oracle on cloud nine
60 Intel's adventures in Germany
61 Bartleby: In praise of jargon
62 NBA v UEFA
62 Why self-storage is hot property
63 The holiday business takes flight
64 Schumpeter: Ford's focus

Worse, even cautious movements within the space that remains can invite disaster.

A spate of spectacular cases has sent chills down the spines of foreign executives. In March five local employees of Mintz Group, an American due-diligence firm, were arrested over what many suspect was a potential breach of laws relating to data security. A month later the authorities launched an investigation into Bain, a consultancy with headquarters in Boston, over apparently similar transgressions.

In May state television aired footage of police rummaging through the offices of Capvision, a multinational research firm. At JPMorgan's conference, cocktail-party chatter turned, *sotto voce*, to the case of a Chinese banker well known in foreign business circles, whose detention would, as it emerged during the evening, be extended for three more months for unspecified reasons. Mintz said it "always operated transparently, ethically and in compliance with applicable laws and regulations". Bain said it was "co-operating as appropriate with the Chinese authorities". Capvision vowed to resolutely abide by China's national-security rules.

It is unclear why the authorities took aim at the advisers; rumours are rife that it had to do with their sleuthing in Xinjiang, where America accuses China of using forced labour, and in China's semiconductor industry, which it hopes to hobble by withholding advanced chips. In the absence of clarity, and facing pressure from governments at home, some foreigners are calling it quits. On June 6th Sequoia Capital, a stalwart of Silicon Valley's venture-capital industry, decided to part ways with its Chinese arm, which will become a separate firm. On June 10th the *Financial Times* reported that Microsoft would move a few dozen top artificial-intelligence researchers from China to Vancouver, in part to avoid them being poached by Chinese big-tech rivals, but also for fear of harassment by Chinese authorities. The boss of a Swiss asset manager whispers, "I don't think [China] is investible, honestly." Many foreigners concur. Still, for most of them China remains too big a prize to forsake. Those that stay put must therefore learn to live with not one pushy superpower, but two.

The travails of Mintz, Bain and Capvision struck a nerve in foreign boardrooms because they targeted the investigators, consultants, lawyers and other advisers on whose expertise outsiders depend to find their feet in faraway places. Clients most commonly enlist such intermediaries in order to understand whom they are doing business with, to identify any hidden risks and to lubricate transactions.

The Communist authorities have always looked askance at such work and put in place rules on data-sharing and state secrets that, if enforced, could be used to curb it. Practitioners report that this year enforcement has become much more common. In areas like Xinjiang and chipmaking, corporate investigations now appear entirely verboten. Details on critical inputs for the broader technology sector—which could become targets of fresh American sanctions—increasingly seem to be treated as state secrets. So is personal information about state-linked businesspeople, who often find themselves in the sights of due-diligence firms. This list of forbidden subjects is unlikely to be exhaustive. And it is almost certainly lengthening.

WIND Information, a Chinese firm employed by banks and brokers around the world to provide financial information on Chinese companies, has been told by the authorities to stop offering some of its services to foreigners, ostensibly lest they breach data-security rules. So has Qichacha, another data provider. A number of Chinese analysts working for foreign companies have been visited by the authorities and pressed to present a rosier picture of China. Officials' fears that regulatory disclosures in America could divulge secrets about Didi Global's technology suppliers or the whereabouts of sensitive passengers were potent enough to force the ride-hailing firm to delist from New York last year.

When corporate muckrakers try to dig up information beyond what is publicly available, or volunteered by firms, things get thornier still. Asking too many questions about a company that turns out to have ties to powerful officials can prove especially hazardous for a nosy adviser. As one consultant recounts, such questions just "shouldn't be asked". Many now turn down requests for "enhanced" due diligence, which can leave clients in the lurch.

Even humdrum administrative and legal footwork required in most business dealings, from writing emails to exchanging bank-account information, is becoming fraught. Whereas, historically, foreign firms worried most about leakage of their intellectual property to Chinese rivals, now they fret about the flow of information from their Chinese partners to them, notes Diana Choyleva of Enodo, a research firm in London. The boss of a global law firm says he can technically no longer correspond with his partners in China. When the Chinese company in question has links to the state, as many do, any of its information could be classified as a state secret.

Foreign companies are scrambling to navigate this perilous new environment. To avoid accidental data leaks, some are considering developing software to parse all exchanges of information, including contracts and emails. They will probably also need to hire and train people to review any data that is flagged by the computer as sensitive. Experts compare it to the anti-money-laundering systems which banks and other multinationals began putting in place more than a decade ago.

Many Western firms have also started drawing up "action plans" for dealing with the new risks. These are being devised by in-house counsel or outside law firms, often at the behest of multinational companies' regional offices, which are keen to demonstrate preparedness to headquarters back home. The scope and depth of these plans make them unlike the ones that firms draw up routinely, says Benjamin Kostrzewa of Hogan Lovells, a law firm. They are based on a broad survey of fast-changing Chinese laws, such as those concerning data, intellectual property and national security, as well as of the equally protean American restrictions. Their provisions are informed by an evaluation, so far as one is possible, of any Chinese companies and individuals involved.

Contingencies that the plans consider include reviewing office leases, employment contracts and other legal responsibilities if a firm were suddenly forced to pull out of China. Companies are also more careful about sending executives to China. A mining executive describes how any visit to the mainland is now preceded by lengthy meetings with the company's lawyers to discuss how to behave in the event of an arrest or other run-in with Chinese officialdom. Without such training, the executive says, the compliance department would not sign off on a Chinese trip.

To ensure compliance with China's data laws, meanwhile, joint ventures between foreign and Chinese firms have been restructuring how they process and store information, explains an adviser. Many joint ventures which are ostensibly run as a single unit are divvying up data-hosting to make sure that the foreign partner does not end up holding anything that could be considered a state secret. Any Chinese intellectual property is kept on Chinese servers.

Cash trapped

Concerns are mounting, too, over the threat of multinationals' money being seized or frozen in the event of a conflict between China and the West, says Mark Williams of Capital Economics, a research firm. In response, advisers say that some foreign firms are putting in place corporate structures that would reduce their overall financial exposure to the country and its capital controls. One ruse is to set up new companies in China that use money borrowed from Chinese banks to buy assets held by the foreign firm's original Chinese subsidiary. That original company then remits the proceeds of the sale overseas. Should those assets be seized, the liabilities sit with Chinese banks, not with the foreign multinational or its bank abroad.

Such arrangements are possible thanks to a series of rule changes in the past four years that relaxed criteria for lending to newly formed foreign entities. Though the structures remain rare for now, some advisers see them as a sign of deteriorating confidence. This confidence is almost certain to deteriorate further, as foreign companies determined not to give up on their Chinese dream find themselves in an impossible situation. They must comply with Western sanctions and, at the same time, with China's ever more draconian laws and Mr Xi's desire to control cross-border flows of information. To make the system work, either China or the West must turn a blind eye. China used to be willing to do this for the sake of economic growth. No longer. ■

Information technology

Ahead in the clouds

Oracle is making its founder the world's third-richest man

AT 78 LARRY ELLISON, co-founder and chairman of Oracle, is still brimming with energy. During the business-software firm's latest quarterly earnings call on June 12th the septuagenarian rhapsodised about artificial intelligence (AI) and the latest cloud-computing technology. He has good reason to be in high spirits. Over the past year Mr Ellison's wealth has rocketed to more than $150bn, according to *Forbes*, a magazine that tracks such things, on the back of Oracle's soaring share price. Mr Ellison has now edged past Jeff Bezos, the founder of Amazon, as the world's third-richest man.

Like Mr Ellison, Oracle might be regarded as a dinosaur of American tech. It began life in 1977 as a database-software business, later expanding into applications for business functions such as finance, sales and supply-chain management. As a latecomer to the cloud, however, Oracle has in recent years ceded market share in its core enterprise products to Amazon, Google and Microsoft, three cloud giants that have aggressively expanded their business-software offerings. Oracle's slice of the database-software market, which remains its bread and butter, fell from 43% in 2012 to 19% in 2022, according to Gartner, a research firm.

Now the business seems to be turning a corner. To catch up with rivals, Oracle has been investing heavily in cloud computing. Capital expenditures in the past 12 months added up to $8.7bn, or 17% of sales, up from just 5% two years ago. Last year it acquired Cerner, a cloud-based health-records business, for $28bn. The upshot has been significant growth in sales of its cloud-based products, which were up by 33% year on year in the most recent quarter, or 55% after including the Cerner acquisition. These sales have grown much faster than the cloud divisions of Amazon, Google and Microsoft. Oracle also outwitted them to snatch the cloud contract to host the American operations of TikTok, a Chinese-owned short-video app to which millions of youngsters are glued.

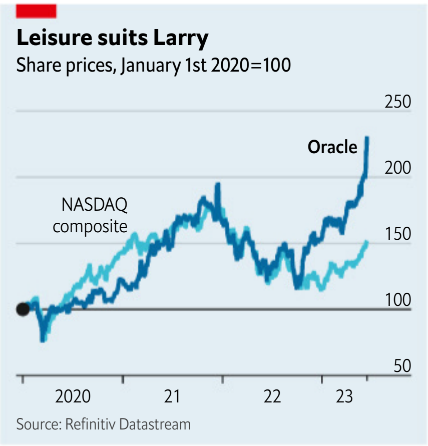
Investors like what they see. Oracle's share price has risen by 73% in the past 12 months, well ahead of the tech-heavy NASDAQ index (see chart). The company's market value is $330bn, making it the world's fourth-most-valuable business-software provider, behind only Microsoft, Alphabet (Google's corporate parent) and Amazon.

Mr Ellison's company is now hoping to cash in on the latest craze in tech: generative AI of the sort that powers ChatGPT and other content-creating bots. In March it became the first cloud provider to offer access to the DGX Cloud, a supercomputer designed by Nvidia, an American chipmaker, specially for training AI models. During the latest earnings call Mr Ellison announced that Oracle will also be launching a new service with Cohere, an AI startup in which it recently took a stake, to help clients use their own data to build specialised generative-AI models. Meanwhile, the firm is embedding generative-AI features into its various business applications.

There is one potential snag. Over the past five years Oracle has returned $100bn in cash to shareholders through share buybacks, reducing its share count by around a third. Mr Ellison, who has held onto his shares, has been among the biggest beneficiaries—his slice of the company jumped from 28% to 42% in the period. To fund those repurchases, and its cloud investments, the company has taken on hefty debts. Its net debt is now more than four times its earnings before interest, tax, depreciation and amortisation (a figure above three is considered risky). Indeed, the firm's debts now exceed the book value of its assets, leaving it with negative shareholder equity on its balance-sheet, a telltale sign of dangerously high leverage.

For now, the company has time on its hands. Fixed interest on its debts means it has suffered little from rising benchmark rates. Its corporate bonds are priced by the market at a yield of 5.7%, but require coupon payments of only 3.8%. And just one-fifth of its debt will mature in the next three years. In recent quarters it has slowed share repurchases and started to chip away at its debt mountain.

The hope will be that the heavy investments made in the past two years will allow the company to grow out of its debt. If it pays off, Mr Ellison may continue his climb up the world's rich list. Either way, Oracle is not about to go extinct. ■


Leisure suits Larry

Share prices, January 1st 2020=100

Source: Refinitiv Datastream

Intel

The Magdeburg gambit

BERLIN

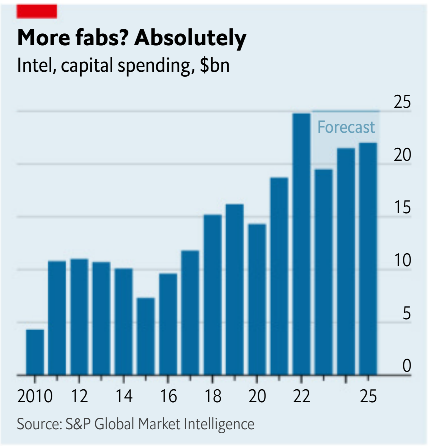
It is make or break for the American chipmaker's giant bet on Germany

RARELY DO GERMANY'S top economists see eye to eye on a big economic-policy controversy. But when it comes to the government's decision to spend billions on subsidies for Intel's mega semiconductor factory in Magdeburg, Reint Gropp of the Halle Institute for Economic Research, Marcel Fratzscher of the German Institute for Economic Research and Clemens Fuest of the Ifo Institute all agree. They consider lavishing billions on the American firm a spectacular waste of taxpayers' money.

The wonks' consensus is falling on deaf ears. Olaf Scholz's centre-left coalition government has agreed to prop up Intel's mega-site in Magdeburg to the tune of €6.8bn ($7.4bn), a big chunk of Intel's €17bn investment in the east German town. Christian Lindner, Germany's pro-market finance minister, recently said there was no money in the budget to meet Intel's demands for an extra €3bn or so in state aid to close a "cost gap" caused by the higher prices of energy and construction. Yet the Social Democratic chancellor appears open to loosening the purse-strings, provided that Intel expands its project.

Pat Gelsinger, Intel's boss, is touring Europe in mid-June. According to sources close to the government, he is expected to meet Mr Scholz in Berlin on June 19th to make his case. The talks could seal the fate of the giant endeavour, which would be the biggest foreign direct investment in German history. He will also visit Magdeburg, where 30 Intel employees, including Bernd Holthaus, head of personnel in Germany, are already beavering away.

Mr Gelsinger's supporters in the chancellery and the economy ministry argue ▸▸


More fabs? Absolutely

Intel, capital spending, $bn

Source: S&P Global Market Intelligence

that Intel's site will create an innovation hub and spawn up to five jobs for each of the 3,000 permanent high-tech positions that Intel plans to create in Magdeburg (in addition to the 7,000 temporary construction workers it will need to build the thing). Moreover, its advocates argue, the chip plant will help to reach the EU's goal of increasing the bloc's share of global chip production from around 10% today to 20% by 2030. This would reduce Europe's dependence on suppliers in Taiwan, South Korea and other countries in the backyard of an increasingly pushy China.

Critics of the project say that subsidising each Intel job to the tune of €1m (if you include construction workers) is lunacy, especially in a region where unemployment is low and where local industrial firms are having trouble recruiting staff. They doubt the lofty estimates of job creation. Many economists reckon that in the best-case scenario one job at Intel might create 1.5 other jobs. Mr Gropp thinks it makes more sense for Germany to buy chips from America (which is already lavishing subsidies on chipmakers).

Does the subsidy make sense for Intel? The firm needs a fillip. In recent years it has fallen behind rivals such as TSMC of Taiwan and Samsung of South Korea in cutting-edge technology. In April it reported a quarterly net loss of $2.8bn, its steepest ever, as global demand for many types of chip cooled. Its market value of $148bn is just over half what it was in early 2021. Mr Gelsinger believes that the way to reverse the decline is by investing heavily in new capacity (see chart on previous page). At a time when chips are no longer selling like hot cakes, that is a risky gamble—with or without German generosity. ■

Bartleby In praise of jargon

Acronyms and slang can help build cultures and improve efficiency

An idea to run up the flagpole: jargon gets an overly bad press. Not the kind of jargon that involves using the words "flagpole" and "run up", but the kind that binds teams together. The kind that is exemplified by the term "nub". In the very unlikely event that you find yourself on board a submarine but are not a member of the crew, you will be a nub.

A nub is a "non-useful body"—someone who uses up oxygen, food and space and offers nothing in return. A nub is someone who is not on the team, and the opacity of jargon gives the word extra bite. Only insiders know what it means.

Useful crew members have their own names. This cast of characters includes nukes, coners, shower techs and other bubbleheads whose jobs may include looking after Sherwood Forest. (If you need to ask, you are a nub.) Although submarines are unusual environments, the use of jargon to signify specific practices, objects and people is prevalent in workplaces everywhere.

Some of this jargon is not much more than slang. The "blue goose" is what White House staffers call the travelling presidential lectern. The "grid" is the nickname for the diary of planned policy announcements by the British government. Doctors have a private vocabulary for patients when they are out of earshot. "*Status dramaticus*" is how some medics diagnose people who have not much wrong with them but behave as though death is nigh; "ash cash" is the fee that British doctors pocket for signing cremation forms.

Such shared language is not exactly high-minded but it does serve a useful purpose—creating a sense of tribe and of belonging. Each company generates its own particular lexicon. The GE logo is also known as "the meatball" by people inside the industrial firm. At Stripe, a digital-payments company, hiring-committee meetings are called "tropes". A "fourth leader" is what journalists at *The Economist* call lighthearted opinion articles. No one knows why; it is usually the fifth of five editorials. But the knowing is enough. The code confers membership.

Jargon can spread for practical reasons as well as cultural ones. The airline industry has the usual slang, from "deadheads" (off-duty crew on a commercial flight) to "George" (a common nickname for the autopilot). But codifying knowledge in agreed ways can be a serious business. Well over 1,000 passengers and crew lost their lives between 1976 and 2000 in accidents where misunderstandings over language were found to have played a role. Pilots use highly standardised and scripted terminology in order to reduce the scope for potentially fatal errors.

Terms can arise as a way of increasing efficiency. A paper published last year, by Ronald Burt of Bocconi University and Ray Reagans of the Massachusetts Institute of Technology, looked at how jargon emerges naturally among groups. It describes an experiment in which volunteers are assigned to teams. Each team member is separately assigned a set of symbols, and one symbol is common to all of them. Team members must quickly identify this shared symbol by sending messages to each other that describe what they have been given.

To start with, the teams use quasi-sentences and generic words to get across what they are seeing (one symbol "looks like its leg is out in a kicking motion"). Soon enough everyone in the team is calling it "kicking man" or "kicker". As rounds progress a tacitly agreed vocabulary allows teams to identify the common symbol more and more quickly. Different teams alight on different forms of jargon for each symbol, but the effect is the same: everyone knows what is meant and things get done faster.

Jargon can be desperately unhelpful. The criminal-justice system is made more intimidating, to victims and suspects alike, by confusing terminology. Conversations between doctors and patients go much better when everyone understands each other. One reason why management jargon arouses so much irritation is because it usually substitutes for something that was doing the job perfectly well. No one hears the words "Let's talk about it later" and feels baffled. Plenty of people do hear the phrase "Let's put a pin in it" and wish they had a sharp object to hand.

There is an awful lot of non-useful blather out there, in other words. But the fact that jargon emerges spontaneously and repeatedly suggests it has its merits. In the right circumstances it can help build a culture and act as a useful shorthand. If you think all jargon is worthless, it may be time to circle back.

The sports business

Ball is life

American leagues are more egalitarian and lucrative than European ones

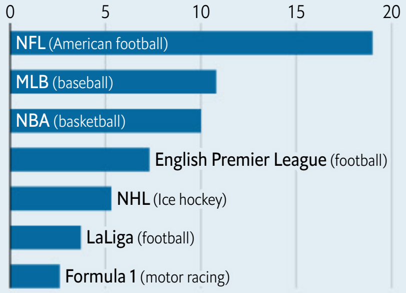
The 2023 finals of America's National Basketball Association (NBA) and Europe's football Champions League were both history-making events, in rather different ways. On June 12th the basketball contest crowned a small-city team that had never before won a championship, the Denver Nuggets. They defeated an unlikely challenger in the Miami Heat, the last-seeded team in its conference of eight. Had Miami won, that would have been a first for such a lowly side. Meanwhile, the UEFA Champions League final, held on June 10th, featured a powerhouse from Britain, Manchester City, defeating a mainstay of European football, Italy's Inter Milan.

European and British football leagues generally let teams spend as much as they want on players, as long as they do not lose too much money. More successful sides tend to earn more money, and so have more cash to splurge on star players—which in turn translates into more success on the pitch, and so on. The week before its Champions League triumph, Man City snatched the English FA Cup, beating Manchester United, another deep-pocketed team. Man United and Man City have won 20 out of the past 31 English Premier League titles; the Champions League (or its predecessor, the European Cup) has been won by Real Madrid and AC Milan, Inter's arch-rival, 21 out of 68 times.

A slam dunk of an enterprise

The off-pitch match-up

Sports-league revenues*, 2022 or latest, $bn



*Ticket sales, broadcasting rights, sponsorships and merchandise
Sources: Deloitte; *Forbes*; RunRepeat; Sportico; The Athletic

Across the Atlantic, meanwhile, the sports world's most lucrative competition, the National Football League (NFL, which involves the non-soccer variety) has a hard salary cap, leading to more parity among teams. The top two squads have won only 12 of 56 Super Bowls, the annual tournament's final round. The penalty for breaking the NBA's current $124m salary cap was bumped up in 2011 and again this year in a revenue-sharing deal negotiated between the players' union and owners. "The new deal is basically trying to prevent super-teams," says Brian Windhorst of ESPN, a television network. And it seems to be working. *The Economist*'s analysis of NBA data shows that a broader set of teams have indeed made it to the playoffs in recent history. In the five years to 2023, 29 of the NBA's 30 squads made the league's knockout stage at least once (the Charlotte Hornets are the exception). That has not happened since the five years to 2008, itself an unusually competitive period.

American sporting socialism, then, appears to lead to more competitive contests than Europe's winner-takes-all approach. But do more competitive leagues make for better business? Here the evidence is mixed. On the one hand, unpredictability may drive interest—why watch when you know who will win? The possibility of an underdog's success might help small teams develop devoted fan bases. On the other hand, people love a winner. Mr Windhorst notes that seasons in which big-name teams like the Boston Celtics have dominated were some of the NBA's most money-making years. In 2022, when the finals pitted the Celtics against San Francisco's Golden State Warriors, another star team, the league raked in record revenues of $10bn.

Another structural difference between American and European sport is easier to correlate with their moneymaking potential. Unlike European football, where teams can be promoted or relegated across various tiers of leagues, American sports tend to be "closed"—there is no way for new teams to accede to the top tournament. "The Europeans see this as fundamental to the organisation of team sports," explains Stefan Szymanski of the University of Michigan, Ann Arbor. Count all the tiers, and more than 1,000 clubs across Europe hope to compete in the Champions League. The NBA's 30 or the NFL's 32 make for more concentrated markets. And concentration leads to riches. (That explains why the threat of a breakaway league of elite teams hangs over European football.)

Last year the NFL's revenues reached $19bn, nearly three times as much as the English Premier League, which probably boasts more fans worldwide than all the American sports put together (see chart). As a result, American teams, which partake in the bonanza, fetch higher valuations. Over the past decade the value of the average NFL and NBA teams has grown by more than 300% and 600%, respectively, compared with a rise of 170% for America's booming stockmarket. A willingness to sacrifice profits for participation makes Europe's sport look European, after all. ■

Self-storage

Unit economics

NEW YORK

The rise of a surprising hot property

Anyone asked to come up with their favourite literary home is spoiled for choice: Pemberley, Brideshead, Blandings, Jay Gatsby's mansion, to name a few. The same holds true for workplaces on television: Los Pollos Hermanos, Dunder Mifflin and the swish Waystar Royco offices, for instance. Ask someone to come up with their favourite fictional storage unit, and expect a blank stare (the most ardent Neal Stephenson fans may recall the one where Hiro Protagonist lives in "Snow Crash").

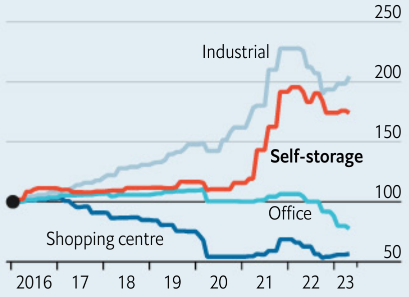
Ubiquitous and unremarkable, self-storage solves a deeply American problem: what to do with too much stuff. A bunch of empty rooms near a highway is not the sexiest part of a property portfolio. Yet few property assets have matched their performance lately (see chart on next page).

One reason is more people moving house. (Ron Havner, former boss of Public Storage, the biggest self-storage firm, said that people seek his services for "the four Ds": death, divorce, disaster and dislocation.) Amid covid-19, anyone living in a house or flat with no spare rooms had to convert an existing one to a home office or gym. That meant clearing out whatever was there. Many were reluctant to bin things, especially early on when nobody

Store of value

United States, commercial-property prices

January 2016=100



Source: Green Street

knew how long self-isolation would last. The alternative was to stash it in storage. Over the past three years self-storage occupancy rates have risen from around 90% to as much as 96%. Demand has been especially high in Florida, Texas and the sunbelt, where people flocked in search of larger homes and laxer lockdowns.

High demand, in turn, has given landlords pricing power. Rent bumps went from around 8-9% every six months before the pandemic to as much as 35%, according to Spenser Allaway of Green Street, an advisory firm. Facilities managers can get away with this because customers tend to be "sticky": they may shop around and choose a facility based on price and proximity, but once their stuff is in they seldom bother moving it. As Stephanie Wright of New York University explains, "Individuals tend to think, 'I'll park my stuff here for a month or two,' but the average rental duration is in excess of a year."

Storage firms have also embraced dynamic-pricing software. Knowing up-to-the-minute market rates allows them to avoid undercharging customers. This is of a piece with the sector's operational efficiency (a small staff keeps labour costs low; preparing a unit for a new customer requires little more than a quick sweep) and with its drive to modernise. Indoor, climate-controlled facilities are becoming the norm. "The days of the old drive-up with a rickety fence and a Doberman for a security system, that's not going to cut it anymore," says Tim Garey of Cushman Wakefield, a property consultancy.

The last factor behind self-storage's outperformance is constrained supply. Whereas the amount of available square footage rose by more than 15% from 2016 to 2019, labour shortages, high construction costs and supply-chain snags have limited new construction in the past few years. That may change as these bottlenecks ease. Even then, the self-storage business may slow but not collapse. As long as Americans keep buying things, they will continue to need places to put it. ■

Holiday travel

Enjoy it while it lasts

Will demand for sunny getaways wane as the economy sours?

REVENGE HOLIDAYS are in full swing and the travel industry is cashing in. After a rocky few years, the urge to splurge on airline tickets and hotels is set to bring in bumper earnings. Tour operators are inundated with bookings; hotel chains are raking in record profits. EasyJet has raised its earnings forecasts twice this year; IAG and Ryanair have both returned to profit for the first time since the start of the pandemic, and Singapore Airlines is handing out some of its record profits as bonuses worth eight months' salary. With air fares rising faster than inflation, global airline bosses now expect $9.8bn in net income this year, more than double the amount initially forecast, according to the International Air Transport Association, an industry body.

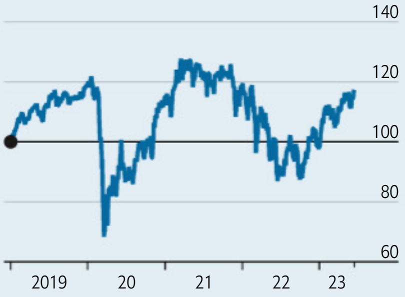
The holiday boom has lifted the outlook for international travel. Worldwide tourist arrivals this year are expected to reach up to 95% of pre-pandemic levels, up from 63% in 2022, estimates the UN's World Tourism Organisation. Share prices of travel companies, which tumbled in early 2022 amid fears of rising inflation and a looming recession, are soaring again (see chart). High prices have not deterred sunseekers so far. "People are prioritising travel over other discretionary spending," says David Goodger of Oxford Economics, a consultancy. Still flush with cash saved during lockdowns, many are splashing out on holidays, even as they trim spending on clothes or dining out.

Business is sizzling, for now

In a holiday mood

STOXX 1800 global travel and leisure index

January 1st 2019=100, $ terms



Source: Refinitiv Datastream

A few factors will determine how long the good times roll on for. Some have to do with the industry's supply side: shortages of airport staff, soaring jet-fuel costs and crumbling IT systems, which buckled under the weight of demand last year, leading to hours-long flight delays or cancellations at short notice. A quarter of all flights in America were scrapped or delayed last summer. Such meltdowns erode trust. They are also costly. Southwest Airlines estimates that the cancellation of nearly 17,000 flights in December led it to incur around $800m in losses.

A bigger question concerns demand. After a glorious summer, appetite for holidays could come crashing down as fast as it has risen. Although America's Federal Reserve has paused interest-rate rises, it is expected to lift rates again in coming months. As the Fed and other central banks in rich countries keep fighting stubborn inflation, holidaymakers may eventually throw in the beach towel.

Chinese tourists, the third-biggest group after Americans and Germans in 2019, according to Oxford Economics, may not pick up the slack. Since covid restrictions in China were eased last year, nearby destinations such as Macau and Thailand have proved popular. Yet Chinese enthusiasm for far-flung spots remains tepid. Accor, a hotel giant, estimates that around three-quarters of Chinese travellers this year will opt for "staycations" instead.

A lull in holidaymaking would be bad news for a heavily indebted industry already facing escalating expenses and recovering from past losses. Airlines alone lost $138bn in 2020. Moody's, a credit-rating agency, expects their labour costs to increase by nearly a fifth this year. Short-staffed hotels are struggling to fill positions despite raising wages. In Britain, wage bills are 15% higher than before the pandemic. After a years-long holiday, day-to-day economic reality may be setting in for the travel industry. ■

Schumpeter | Ford's focus

The 120-year-old carmaker shows the importance of knowing your limits

JIM FARLEY relishes a challenge. In January Ford's boss, an enthusiastic amateur racer of historic cars, made his professional debut on the track in a powerful modern Mustang GT-4. Yet the risks of tearing round a circuit are nothing compared with manoeuvring Ford, which on June 16th will celebrate 120 years in business, through a new age of carmaking. Ford, like other legacy firms, is trying to reinvent itself to compete in an era of electrification and software-defined vehicles. It faces established rivals as well as newcomers, foremost among them Elon Musk's Tesla. Amid this packed grid, Mr Farley is charting a singular racing line.

Established carmakers have long been written off by investors as clunkers, characterised by low growth, low margins and an unmatched ability to destroy shareholder value. Between 2014 and Mr Farley's taking the wheel in October 2020, Ford's market capitalisation shrivelled by three-fifths, to $27bn. After a euphoric spike in early 2022, when it hit $100bn on enthusiasm about the company's electric plans, it is back down to $57bn. But as befits a racing driver, Mr Farley is undaunted. He has reorganised the company into three units, focusing on electric vehicles (EVs, in which Ford plans to invest $50bn between 2022 and 2026), on high-margin petrol-driven cars and on Ford's world-beating commercial-vehicle business. He thinks that Ford can boost operating margins from 6.6% in 2022 to 10% by 2026 and turn EV-related losses, which are forecast to reach $3bn in 2023, into profits.

Mr Farley's plan hinges on learning a thing or two from the disrupters, whose contribution to the industry he is quicker to acknowledge than most other car bosses are. "Tesla has influenced a lot of our thinking," he admits. Most important, he has a clear idea of where emulating rivals plays to his company's competitive advantage and, critically, where it does not.

Mr Musk's biggest contribution to carmaking may be proving that EVs, which have been losing the incumbents money for years, can turn a healthy profit. Tesla's operating margin, of 17% in 2022, was comfortably higher than those that most established carmakers enjoy on their petrol-powered ranges. To achieve his electric goals, Mr Farley is following Mr Musk and reversing years of industry practice that left the big marques' largest suppliers to manage those lower down the value chain.

Ford is not the only legacy carmaker to be bringing more of the supply chain in-house. Rivals such as General Motors (GM) and Volkswagen are also building battery "gigafactories" close to their big markets. But Mr Farley is, like Mr Musk, busier than most bosses in negotiating directly with mining firms to secure battery minerals. Ford has already signed deals to guarantee supplies of 90% of the lithium and nickel it needs for the 2m EVs it wants to be producing annually by 2026. Ford even intends to process some of the lithium in America. This should help it reduce the industrywide reliance on Chinese refiners. It also ensures that electric Fords qualify for subsidies under the "made in America" terms of the Inflation Reduction Act, a giant green-funding law passed last year. As a result, Mr Farley hopes soon to be making the cheapest batteries in America at Ford's plant in Michigan.

Mr Farley is also emulating Mr Musk in trying to pare back the industry's notorious complexity. Just as a lighter, nimbler machine has a better chance of staying ahead of a big and powerful one on the track, the thinking goes, a simpler company should be able to negotiate the twists and turns of industrial change. Famously, Tesla makes just four models with few options for customisation. Similarly, Ford's next generation of electric pickups will come with one cabin, one frame and one standard battery in just seven basic formats, says Lisa Drake, Ford's overseer for EV industrialisation. That compares with an options list for the bestselling petrol-powered F-150 pickup that allows for millions of combinations. Rather than integrating hundreds of parts from suppliers, each with chips that need to work in harmony, Ford's new EV architectures, set for launch in 2025, will share more common mechanical and software underpinnings.

Where Mr Farley's thinking and Mr Musk's diverge is over what besides manufacturing vehicles carmakers ought to be doing. Mr Musk has an expansive view of his company's role, which stretches from designing Teslas' infotainment system to building a charging network where owners can top up their batteries. Mr Farley, by contrast, is focusing squarely on manufacturing vehicles and is happy to outsource some of the other things. In May Ford stunned many observers when it signed a deal with Mr Musk's firm to grant Ford EVs access to Tesla's North American Supercharger network, with its 12,000 charging stations.

Soft power

More surprising even than the charging deal is Ford's decision to continue relying on outside partners for a lot of in-car software. This flies in the face of received wisdom in the industry, according to which things like infotainment systems, from satellite navigation to music streaming, will increasingly determine the car-owning experience, differentiate car brands and generate revenues from new services. Tesla does not accommodate Apple's CarPlay and Google's Android Auto platforms, which connect motorists' smartphones to their cars' dashboards. GM recently declared that it would ditch CarPlay and Android Auto and come up with its own better system. Mr Farley sees the need to keep control of computer programs in critical areas such as safety and security. But he accepts that Ford has lost the battle for the cockpit to big tech.

There are signs that some incumbents may be becoming more clear-eyed about their limitations. On June 8th GM announced it had made a similar charging arrangement with Tesla. More would probably benefit from greater realism about their software prowess. Stick to what you do well and leave the rest to others is a lesson that many of Ford's rivals could usefully learn. ■

Finance & economics

Global property

The great escape

SAN FRANCISCO AND SYDNEY

Why rising interest rates have not yet triggered property pandemonium

IN AUSTRALIA HOUSE prices have risen for the past three months. In America a widely watched index of housing values has risen by 1.6% from its low in January, and housebuilders' share prices have done twice as well as the overall stockmarket. In the euro area the property market looks steady. "[M]ost of the drag from housing on GDP growth from now on should be marginal," wrote analysts at JPMorgan Chase, a bank, in a recent report about America. "[W]e believe the peak negative drag from the recent housing-market slump to private consumption is likely behind us," wrote wonks at Goldman Sachs, another bank, about South Korea.

Economists had expected a house-price bloodbath. In March 2022, when the Federal Reserve first started raising interest rates to combat resurgent inflation, the average value of a house in a rich country was 41% higher than five years earlier. Prices had bounced back from the financial crisis of 2007-09, then rocketed during the covid-19 pandemic (see chart on next page). Since then central-bank policy rates have risen by more than three percentage points on average globally, making mortgages costlier and slowing the economy.

Global house prices have certainly come off the boil. They are 3% below their recent peak, or 8-10% lower once adjusted for inflation. This is in line with the average correction since the late 19th century. Yet this slump should have been different because it followed a boom when prices rose at their fastest rate of all time. The upshot is that real house prices remain miles above the level of 2019. Many millennials and Gen-Zers, who had dreamt that a crash would allow them to buy their first house, are no doubt disappointed.

→ Also in this section

66 China's banking crackdown

68 Buttonwood: When to end QT

71 Our AI job-killing measure

71 Trade diplomacy in Asia

72 South Korea, for ever emerging

73 Free exchange: Wage-price spirals

During a typical global housing slump some countries have a torrid time. After the financial crisis Irish house prices fell by half. American house prices dropped by 20%. This time the underperformers are doing better. In San Francisco house prices are a tenth off their peak, as tech types have decamped to Florida and Texas. Yet they have stopped falling—and the average house will still set you back more than $1.1m, around ten times the median income in the city.

Having gone bananas in 2020-21, house prices in Australia have since fallen by 7%. But, as a recent auction hinted, the market is recovering. A two-bedroom bungalow in Double Bay, a greying suburb on Sydney's harbour, recently opened at A$4m ($2.7m). It represents, the auctioneer declares, an "outstanding opportunity to come along and add a lot of value". Translation: it needs some work. That does not deter the well-heeled crowd which jostles outside its gate—the bidding is frantic. The gavel finally drops at more than A$6m.

By contrast with previous housing slumps, there is no hint that lower house prices have created financial contagion. ▸▸

Banks do not seem worried about a surge in bad mortgages. They have fewer risky loans and have not binged on dodgy subprime securities. In New Zealand mortgage arrears have risen, but remain below their pre-pandemic norm. In America delinquencies on single-family mortgages recently hit a post-financial-crisis low. In Canada the share of mortgages in arrears is close to an all-time low.

Nor do property woes appear to be throttling the wider economy. Weaker housing investment is dragging on economic growth, but the effect is small. In previous housing busts the number of builders declined sharply long before the rest of the labour market weakened. Yet today there is still red-hot demand for them. In South Korea construction employment has dropped slightly from its pandemic highs but now seems to be growing again. In America it is rising by 2.5% a year, in line with the long-run average. In New Zealand construction vacancies remain well above historical levels.

Three factors explain the rich world's surprising housing resilience: migration, household finances, and people's preferences. Take migration first, which is breaking records across the rich world. In Australia net migration is running at twice pre-pandemic levels, while in Canada it is double the previous high. Demand from the new arrivals is supporting the market. Research suggests that every 100,000 net migrants to Australia raise house prices by 1%. In London, the first port of call for many new arrivals to Britain, rents for new lets rose by 16% last year.

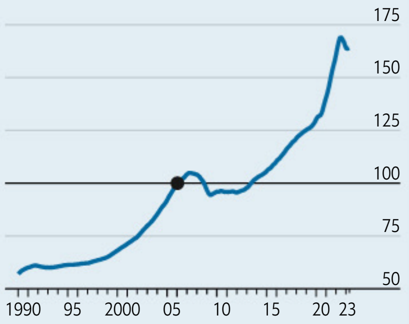
Strong household finances, the second factor, also play a role. Richer folk drove the housing boom, with post-crisis mortgage regulations shutting out less creditworthy buyers. In America in 2007 the median mortgagor had a credit score of around 700 (halfway decent), but in 2021 it was close to 800 (pretty good). Wealthier households can more easily absorb higher mortgage payments. But many borrowers will also have locked in past low interest rates. From 2011 to 2021 the share of mortgages across the EU on variable rates fell from close to 40% to less than 15%. Even as rates have risen, the average ratio of debt-service payments to income across the rich world remains lower than its pre-pandemic norm. As a result fewer households have had to downsize, or sell up, than during previous slumps.

The pandemic itself has played a role. In 2020-21 many households drastically cut back on consumption, leading to the accumulation of large "excess savings" worth many trillions of dollars. This stash of savings has also cushioned families from higher interest rates. Analysis by Goldman Sachs suggests a positive correlation across countries between the stock of excess savings and resilience in house prices. Canadians accumulated vast savings during the pandemic; home prices there have recently stabilised. Swedes amassed smaller war chests, and their housing market is a lot weaker.

The third factor relates to people's preferences. Research published by the Bank of England suggests that shifts in people's wants—such as the desire for a home office, or a house rather than a flat—explained half of the growth in British house prices during the pandemic. In many countries, including Australia, the average household size has shrunk, suggesting that people are less willing to house-share. And at a time of higher inflation, many people may want to invest in physical assets, such as property, infrastructure and farmland, that better hold their value in real terms. All this could mean that housing demand will remain higher than it was before the pandemic, limiting the potential fall in prices.

As safe as...

Global house prices, January 2006=100



Source: Absolute Strategy Research

Could the housing bust be merely delayed? Perhaps. Some past house-price declines, including in the late 19th century, were grinding rather than spectacular. Central bankers may also be minded to raise rates or keep them high until the higher cost of money truly starts to bite. Making homeowners feel poorer is one way of getting them to cut spending, which would help trim inflation.

Yet there is reason to believe the worst is over. After reaching an all-time low last year, consumer confidence across the rich world is rising again. Households on average still have plenty of excess savings. A structural shortage of housing means that there is almost always someone willing to buy if someone else cannot. And there is little sign that people are losing their taste for home offices and weight-lifting in the attic. The housing boom has ended with a whimper, not a bang. ■

Chinese banks

Graftbusters

SHANGHAI

A new super-regulator takes aim at rampant corruption in Chinese finance

HARDLY A DAY passes without someone in Chinese finance "falling off his horse", or coming under a corruption investigation. State media warned on June 5th that the banking industry is infested with "moths"—mid-level managers who slowly ingest lenders' resources from the inside out. "Internal ghosts", executives who use insider connections to pilfer billions from banks, often pose a greater danger. There are "nest cases", where clusters of fraud spanning several banks are discovered at once, and "skewer cases", in which the arrest of one banker leads to another, then another. After a recent spate of scandals an official newspaper dubbed smaller banks an "anti-corruption disaster zone".

Such parlance hints at pervasive graft throughout China's vast financial system, which has assets of 400trn yuan ($56trn). Between January and May at least 60 financial institutions were hit with major investigations into personnel, according to official statements and press reports. Research by *The Economist* shows that, over the past five years, 78 executives at China's eight largest banks have been investigated or charged with corruption. Since 2018 authorities have also probed 385,000 shareholders of rural banks suspected of using the lenders as personal piggy banks.

The crackdown has shown no sign of ebbing as the Communist Party gains a much firmer grip over enforcement. In the biggest regulatory change in two decades, the central government announced earlier this year that it would create a super watchdog that oversees all areas of finance except the securities industry. How it applies its mega-powers is bound to remould a sector the health and stability of which matters hugely not just to China, but also to the global economy.

The new system is modelled on America's, which seeks to avoid overlapping mandates. The National Administration for Financial Regulation (NAFR), as the new watchdog is dubbed, has been granted ▸▸

status that moves it closer to the central government. That gives it stronger enforcement powers, similar to America's Securities and Exchange Commission. It has gained investor-protection responsibilities, akin to America's Financial Stability Oversight Council, and taken over financial oversight from the central bank (which, like the Federal Reserve, now focuses on macroprudential policy).

NAFR is preparing to take forward what has perhaps been the most extensive financial clean-up campaign in history. Starting in 2017, its predecessor scrambled to slow down a dangerous rise in risky financial activities. It tightened rules on shadow banking, shrinking the stock of shadow loans from the equivalent of 25.3% of total banking assets in 2017 to just 13.5% last year. It subdued sprawling financial firms and powerful people that had sought to manipulate the system. Among them were Anbang, an insurance group, and Baoshang Bank, a mid-tier lender. It crushed a 1trn yuan peer-to-peer lending industry, where people lent to one another via online platforms. The central government also upended the fintech empire of Jack Ma, China's most famous entrepreneur, after his company, Ant Group, built a mammoth lending business that received little regulatory scrutiny.

The new team will have to reckon with the costs of the clean-up, which are mounting. Many wealth-management products have gone bust, causing investors to protest. The bill for cleaning up urban banks and bailing out several large lenders has come to 10trn yuan. Rescuing Anbang alone cost $10bn. Tens of thousands of investors in peer-to-peer lending products have lost their savings. Nearly 630 small banks have been restructured.

The cutting down of Mr Ma has hurt China's reputation as a place safe for entrepreneurial experimentation. So has the recent detention of Bao Fan, one of China's most famous investment bankers. Senior regulators bristle at such criticisms and feel that, at least in Mr Ma's case, official actions were too timid for a risky business model. The new system will rectify that by giving NAFR regulatory control over financial holding companies such as Ant.

第十四届陆家嘴论坛 (2023)
THE 14TH LUJIAZUI FORUM 2023

Li Yunze, supercop

The vision for regulating the financial sector is becoming clear. Senior officials believe they have chosen the best features of the American system while rejecting the values of Wall Street, which, in their view, have seeped into China over two decades. The message to bankers is grim. Entrepreneurs will be allowed to continue to reap enormous fortunes. But the government does not want bankers to become exorbitantly wealthy. No celebrity financier, no matter how high-profile, appears immune from corruption probes.

NAFR has several pressing tasks ahead of it. First it must replace local financial regulators with its own teams and dismantle the connections between banks and local governments. The establishment of thousands of new banks since the 1990s and commands from politicians to build endlessly have helped feed a cesspool of bad assets. The small lenders that sprung up across the country often had close connections with local governments and the largest local companies, namely developers. In many cases tycoons who held shares in the banks, or controlled them outright, used them to fund their businesses. One result was a decade of high-speed economic growth. Another was rampant graft and poor allocation of funds.

So far the onslaught on corruption, the biggest threat to China's financial stability according to many, is proving highly effective, says Sam Radwan of Enhance, a consultancy. The number of arrests will probably fall. But to purge the financial system of the bad assets revealed by the campaign will be a big job—and it is an urgent one. Tight links between banks, property developers and city governments have left the industry with masses of risky loans. Developers and local-government companies owe China's banks 130trn yuan, or about 42% of total banking assets, according to Xing Zhaopeng of ANZ, a bank.

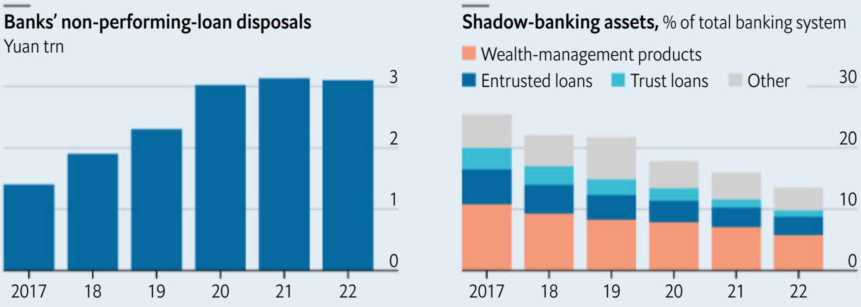
Most of those debts are deemed healthy. Li Yunze, who was recently appointed to lead NAFR, said on June 8th that the risks are controllable. In its most recent review of the banking system, the central bank said just 1.6% of total system assets are considered high-risk.

That could change if things get worse for developers and local governments. Both are finding it increasingly hard to pay back loans. A group of companies called local-government financing vehicles (LGFVs), which often borrow from banks on behalf of cities and provinces, have spooked markets in recent weeks as many show signs of impending failure. Such risks often emerge suddenly and have the potential to contaminate banks. Dalian Wanda, one of China's top developers, has reportedly entered into talks with banks on a loan-relief plan. It has more than 90bn in outstanding loans. An LGFV in south-west China is rumoured to be paying back loans using local social-security funds.

Failure to handle this pile of debt threatens to mire the system in bad credit. Many such loans may not turn into toxic assets overnight. Instead, some will become long-term drags on bank profits. Another LGFV in southern China recently agreed with banks to restructure 15.6bn yuan in loans by lowering interest rates and pushing the maturity of the loans out by 20 years. In such situations banks have few other options than to extend.

Regulators have been experimenting with merging bad banks for years. So far 23 urban banks have been combined. But insiders say the process is cumbersome, can drag on for years and ultimately leads to the creation of larger bad banks. Another option is letting banks fail. This has been tested only a few times and risks causing runs on deposits—the opposite of the sta-

Rocking horses
China



Banks' non-performing-loan disposals
Yuan trn

Shadow-banking assets, % of total banking system

Sources: CBIRC; Moody's; press reports

bility China's leaders are trying to achieve.

Large banks are absorbing some bad debts from smaller ones. But their ability to do this is limited, and they are unlikely to take on equity in troubled banks. Some local state-owned firms have started injecting liquidity into rural lenders and taking shares in them, according to Chinese media. This type of recapitalisation is bolstering banks' balance-sheets and giving them more room to dispose of bad debts.

The only way to heal the sector is to recognise and treat soured loans. Efforts to do so have been haphazard. In 2019 regulators said they would require banks to declare the true scale of bad loans instead of using fancy accounting to hide them. But the pandemic then forced watchdogs to enforce the rules less stringently; they also told banks to roll over loans. This avoided mass corporate defaults, but also added to the hidden accumulation of bad assets. Now, with the pandemic at an end, the long-delayed recognition of more bad debts is starting, says Ben Fanger of ShoreVest Partners, an investor in distressed debt. This means a vast flow of toxic assets is coming on to the market.

State-owned asset managers will buy up some of that debt at discounted rates. Unlike 20 years ago, when the previous mountain of bad assets failed to lure bargain-hunters, there are now more local private investors willing to snap up non-performing loans from banks. Some corporate investors will also pick through the rubble of the property sector to search for distressed debts that allow them to take over projects on the cheap. As the economy slows and the extent of the financial rot is revealed, China's new regulators can only hope there are enough of them. ■

Buttonwood The Fed's other quandary

America's central bank must soon decide when to stop shrinking its balance-sheet

MASTERLY INACTIVITY is back in vogue at the Federal Reserve's rate-setting committee. After its meeting on June 14th it kept its benchmark rate on hold, rather than raising it, for the first time since January 2022. One or two more rate rises may lie ahead: Jerome Powell, the Fed's chairman, suggested so in his post-meeting press conference, and that is what investors expect. Gradually, though, the main debate among Fed watchers has shifted from how high the rate will go to how long it will stay there before being cut.

That is a knotty problem, made knottier by the fact that core prices in America (excluding volatile food and energy) rose by 5.3% in the year to May. It is also not the only one facing Mr Powell and his colleagues. They have spent the past year steadily shrinking the Fed's huge stock of Treasuries and mortgage-backed securities (MBS), the face value of which has fallen from $8.5trn to $7.7trn. Each month the Fed allows up to $60bn-worth of Treasuries, and $35bn of MBS, to mature without reinvesting the proceeds. Now it must decide when to stop.

This vast portfolio was amassed via the Fed's quantitative-easing (QE) programme, through which it bought bonds with newly created money. Conceived amid the global financial crisis of 2007-09, it was put into overdrive during the covid-19 pandemic. QE flooded markets with liquidity and nudged nervous investors into buying riskier assets—because the Fed was already buying the safest ones, which pushed their yields down. That kept the supply of credit and other risk capital flowing into the real economy. Critics decried all this as reckless money printing. But with inflation low and deflation more of a threat, they were easy to dismiss.

The return of high inflation makes QE's reversal (quantitative tightening, or QT) desirable on several counts. Just as buying Treasuries brings long-term rates down, the disappearance of a buyer should raise them, complementing the tightening effect of the Fed's short-term rate rises. And if the Fed is not buying Treasuries, someone else must be holding on to them. That means they are not buying a riskier asset such as a stock or corporate bond, reducing the supply of capital to an overheated economy. Both effects should dampen price rises.

QT also bolsters the Fed's credibility. If it only ever conducted QE, and never reversed the process, accusations of money printing and currency debasement would be much harder to brush off. Inflation expectations could rise, self-fulfillingly and perhaps disastrously. So the Fed must prove it is willing to hoover up dollars as well as pump them out.

In that case, why stop at all? The simplest reason is that the Fed's tightening cycle is approaching its end. Eventually it will consider cutting short-term rates again, especially if economic cracks appear. To still be pushing long-term ones up at that point would be akin to a driver pressing the accelerator and the brake at the same time.

The more troubling reason is that, just like raising short-term rates, QT can inflict its own damage. Having been tried only once before, from 2017 to 2019 and at a much slower pace, its side-effects are poorly understood. That does not make them less dangerous. By sucking cash out of the system, the previous bout of QT prompted a near-failure of the money markets—the place where firms borrow to meet immediate funding needs and one of the world's most important pieces of financial plumbing. The Fed cleared the blockage with an emergency lending facility that it has since made permanent. It also had to halt QT.

This time it would be something else that breaks. The stockmarket is an obvious, if unthreatening, candidate: only a devastating crash would threaten financial stability. A broader liquidity crunch would be worse. Credit markets, already tight following several bank failures and rising defaults, are more likely to seize. America's Treasury, meanwhile, is set to soak up yet more liquidity. It must sell more than $1trn of debt over the coming three months to rebuild its cash buffers after the latest debt-ceiling drama. By increasing the risk of sudden market moves, that raises the odds of participants suddenly needing to raise cash for margin calls—and the risk that they cannot.

However small the ideal size of the Fed's balance-sheet, ever more shrinking could be dangerous. So QT must stop before it risks sparking a crisis that requires a return to QE. But when? That is the central bank's next big dilemma.

HYDROGEN IN NRW: THE SMALLEST ELEMENT WITH THE BRIGHTEST FUTURE.

EUROPE'S HEARTBEAT

› **Join the beat and explore Germany's largest hydrogen network: North Rhine-Westphalia (NRW).** With numerous research institutions and the world's largest project plant for storing green hydrogen, NRW is taking a leading role in the energy market throughout Europe – creating ideal conditions for future-oriented hydrogen economy. Welcome to NRW!

www.nrwglobalbusiness.com

NRW.GLOBAL BUSINESS
Trade & Investment Agency

ECONOMIST
IMPACT

How can infrastructure transform society for the better?

Find out at infrastructure-for-good.economist.com

Supported by
Deloitte.

Research partner
Duke
NICHOLAS INSTITUTE
for ENERGY, ENVIRONMENT
& SUSTAINABILITY

Labour markets

Boy cries wolf

SAN FRANCISCO

Generative AI is not yet killing jobs

After astonishing breakthroughs in artificial intelligence, many people worry that they will end up on the economic scrapheap. Global Google searches for "is my job safe?" have doubled in recent months, as people fear that they will be replaced with large language models (LLMs). Some evidence suggests that widespread disruption is coming. In a recent paper Tyna Eloundou of OpenAI and colleagues say that "around 80% of the US workforce could have at least 10% of their work tasks affected by the introduction of LLMs". Another paper suggests that legal services, accountancy and travel agencies will face unprecedented upheaval.

Economists, however, tend to enjoy making predictions about automation more than they enjoy testing them. In the early 2010s many of them loudly predicted that robots would kill jobs by the millions, only to fall silent when employment rates across the rich world rose to all-time highs. Few of the doom-mongers have a good explanation for why countries with the highest rates of tech usage around the globe, such as Japan, Singapore and South Korea, consistently have among the lowest rates of unemployment.

Here we introduce our first attempt at tracking AI's impact on jobs. Using American data on employment by occupation, we single out white-collar workers. These include people working in everything from back-office support and financial operations to copy-writers. White-collar roles are thought to be especially vulnerable to generative AI, which is becoming ever better at logical reasoning and creativity.

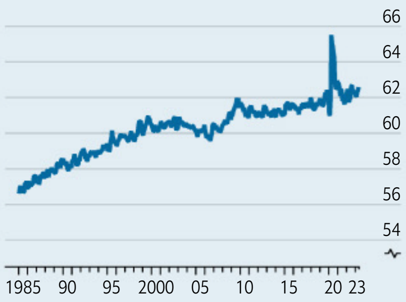
However, there is as yet little evidence of an AI hit to employment. In the spring of 2020 white-collar jobs rose as a share of the total, as many people in service occupations lost their job at the start of the covid-19 pandemic (see chart). The white-collar share is lower today, as leisure and hospitality have recovered. Yet in the past year the share of employment in professions supposedly at risk from generative AI has risen by half a percentage point.

It is, of course, early days. Few firms yet use generative-AI tools at scale, so the impact on jobs could merely be delayed. Another possibility, however, is that these new technologies will end up destroying only a small number of roles. While AI may be efficient at some tasks, it may be less good at others, such as management and working out what others need.

Managing just fine

United States, white-collar jobs

% of employment



Sources: BLS; *The Economist*

AI could even have a positive effect on jobs. If workers using it become more efficient, profits at their company could rise which would then allow bosses to ramp up hiring. A recent survey by Experis, an IT-recruitment firm, points to this possibility. More than half of Britain's employers expect AI technologies to have a positive impact on their headcount over the next two years, it finds.

To see how it all shakes out, we will publish updates to this analysis every few months. But for now, a jobs apocalypse seems a way off. ■

Trade diplomacy

The great steeplechase

SINGAPORE

America's trading clout in Asia is waning

The intensifying rivalry between America and China has not been kind to open markets. Letting defence or foreign ministers dictate trade policy, it turns out, is not conducive to making goods move more smoothly across borders. Yet even as globalisation crumbles, a race to gain commercial clout in the world's most populous and fastest-growing region has kicked off. It is a race China is quietly winning.

Both America and China are keen to trumpet to Asian countries the benefits of the regional pacts they sponsor (each of which excludes their rival power). On May 27th a group of 14 countries agreed to set up an early-warning system over supply-chain problems—the first building block of the Indo-Pacific Economic Framework (IPEF), President Joe Biden's flagship offering. On June 2nd the Regional Comprehensive Economic Partnership (RCEP), a China-backed trade deal which includes Australia, Japan, New Zealand, all of South-East Asia (bar East Timor) and South Korea, came into force in the Philippines, the last of the pact's 15 members to ratify it.

At first blush the two pacts look mostly insubstantial. American negotiators are not interested in offering greater market access for Asian exporters, robbing IPEF of the raison d'être of a trade deal. Critics dismiss RCEP as broad but shallow because it does not cover labour rights, the environment and state-owned enterprises.

Despite those limitations, however, RCEP is already expanding China's commercial heft. Whereas the value of Chinese exports to America and the EU dropped by 15% and 5% respectively in the five months to June, compared with the same period in 2022, exports to the Association of South-East Asian Nations grew by 8% over the period. The ten-member bloc is now China's largest trading partner.

It helps that the area where RCEP has made most progress—harmonising rules of origin for goods exports—matters a lot to the complex supply chain that runs across the world's biggest manufacturing hub. The deal, in effect, creates a single market in the intermediate goods that go into final products, helping RCEP to prevent the so-called "noodle-bowl" of dozens of overlapping trade deals that exporters struggle to digest.

That makes the region "a kind of tariff-free supply web", says Aditya Gahlaut of HSBC, a bank. The reduced complexity is more attractive to Asia's countless small businesses and encourages investment in production that takes place in RCEP countries, instead of elsewhere.

Another selling point is that RCEP may well make its members richer. That will not be thanks to tariff reductions, which are too puny to matter. A recent World Bank study projects that they will raise local real incomes by only 0.07% by 2035. Instead gains will come in the form of improvements in productivity brought about by fewer trade frictions and more liberal rules of origin. The bank reckons trade between RCEP countries could rise by a whopping 12% over the same period, compared with a no-deal scenario.

There is still time for IPEF to catch up. Some of America's Asian allies hope a Biden win at next year's presidential election will change the mood music in Washington, enabling faster progress. For now that looks optimistic. One former trade negotiator jokes that the fact that India is a member of IPEF is a signal that any future agreements will be toothless. Its government, which opted out of both the Trans-Pacific Partnership (IPEF's bolder predecessor) and RCEP, is studiously avoiding multilateral trade agreements that genuinely mean business. By casting a wide net, America has ensured that IPEF can advance only at the pace of its slowest member. ■

Stock indices

Lost and won

SEOUL

Will South Korea ever be declared a developed market?

IN THE 1960s South Korea was a poor, backward country recovering from a devastating war. Now it is the 12th-largest economy in the world. Its 52m people earn an average of $35,000 a year, nearly as much as Italians and way more than Iberians. Its stockmarket is the 16th-biggest globally, with a capitalisation of $1.8trn, and the seventh-busiest by daily traded volumes. The IMF has deemed South Korea an advanced economy since 1997. Anyone still describing it as an emerging market might therefore appear to have been asleep for the past half-century.

And yet this is what MSCI, a company that creates market benchmarks, has been doing for three decades. South Korea was the 13th country to join its Emerging Market Index, which now counts 24 members. Some have since been relegated to a "frontier" basket (Croatia, Morocco), shunted to "standalone" markets (Argentina) or even dropped altogether (Venezuela). Less glitzy economies than South Korea's, such as Greece and Portugal, were elevated to MSCI's Developed Market index years ago. South Korea therefore thinks it is overdue a promotion. It may hope to achieve one on June 22st, when MSCI announces which countries stand a chance to receive the accolade next year.

The index provider has long pointed out that investing in South Korean assets is often an unnerving experience. Shareholders' rights are weak. Ownership structures are byzantine. Repeated scandals expose lapses in governance. And state interventions routinely warp markets.

To address such misgivings the government in January announced a raft of ambitious reforms. Rules governing the distribution of dividends, for years clear as mud, will be brought closer to Western standards. Procedures for takeovers and spin-offs will be revamped to better protect minority shareholders. An arduous registration process for foreign investors will be abolished by the end of the year, with large South Korean companies required to release filings in English from then on (smaller firms are slated to follow in 2026). Most important for MSCI, South Korea has pledged to open up its foreign-exchange market and to extend its working hours, which should help make the won more tradable internationally.

Such reforms aim to make South Korea's financial markets more dynamic—a worthy goal in itself. But the government reckons inclusion in MSCI's elite benchmark is also worth angling for, because it would bring with it a vast influx of cash from foreign investors. About $3.5trn of assets under management, spread across the globe, currently track MSCI's Developed Market index—nearly twice as much as the money following its emerging-market cousin, according to Goldman Sachs, an investment bank. Analysts estimate that a promotion could lure some $46bn-56bn of fresh capital into South Korean assets.

Moving on up could also help put an end to the "Korean discount"—the persistently lower valuation of South Korean firms relative to foreign ones with similar earnings and assets. Investors had to contend with poor governance and shareholders' rights, along with the nagging risk of a conflict with North Korea; they often received meagre dividends for their trouble. By signalling that the regime is becoming friendlier, the logic goes, an MSCI upgrade would help dispel investors' doubts.

The trouble is that South Korea has been there before. It made it on to MSCI's coveted watchlist in 2009, only to be crossed off in 2014 after the index provider alleged it was not sufficiently upping its game. Various administrations have since aimed for the promotion but failed to set adequate reforms in motion.

Some critics paint even the latest batch of measures as half-hearted. South Korea has ruled out some changes the MSCI would like, such as removing limits on foreign ownership in key industries and loosening restrictions on short-selling. And political whims continue to make investors queasy. Last year bond markets experienced a wild few days after a provincial governor refused to honour the region's debts. In February the country's president, Yoon Suk-yeol, ordered the markets watchdog to keep a lid on banks' profits, because they are "part of the public system". Investors were unimpressed.

MSCI has already indicated that this might still not be South Korea's year. On June 8th it hinted that it would wait until the capital-market reforms were fully implemented and see how investors react to them before considering adding the country to its premier league.

That might be a blessing in disguise. South Korea should not rush into an upgrade, says Hwang Sun-woo of Korea University. Its economy, which depends heavily on exports, could be rocked in the event of a hasty opening of its foreign-currency markets. And the potential rewards should be put into perspective. The expected capital inflows, small relative to the size of South Korea's markets, would mostly benefit big companies. They could also be reversed. After luring money upon its promotion in 2010, Israel, the country to most recently graduate to developed-market status, suffered $2.5bn in net outflows the next year, which erased all earlier gains.

Membership of elite clubs will not in itself cure South Korea's reputational ills; after all, these have persisted despite its inclusion in top indices created by other blue-chip providers, such as Dow Jones and FTSE Russell. To do so, the reforms will have to convince a wider public. ■

KOSPI
2,577.08
Hana Bank
▼0.04 (0.00
USD/KRW
1,319.40
Hana Bank
▼7.
06/01 09:00
09:05
09:10

Taking stock

Free exchange | Breaking the doom loop

Wage-price spirals terrify central bankers but are not much help for understanding inflation

A WAGE-PRICE SPIRAL is the stuff of inflationary nightmares. It refers to a situation when prices gallop higher—perhaps because of a sudden shock or policy missteps, or both—and wages race upward to keep pace with them, in turn feeding through to yet more price rises and yet more wage increases, and so on in a vicious circle. It can seem as if the world's economies have been living this horror: in America hourly earnings rose by about 6% last year, the biggest annual increase in four decades. In Britain wages excluding bonuses are rising at an annual clip of about 7%. On June 14th, when the Federal Reserve elected to leave interest rates unchanged after ten consecutive increases, Jerome Powell, its chairman, warned that he was watching wage trends as one test of whether the central bank might resume raising rates in July.

But the dangers that appear in nightmares usually bear little resemblance to the threats worth worrying about in reality. The world's uncomfortable ride with inflation over the past two years seems to point to a similar conclusion about wage-price spirals: they are a caricature of what happens to an economy with an inflation problem.

The historical parallel often trotted out in discussing wage-price spirals is the 1970s. Price and wage inflation seemed to interact throughout that decade, much as the spiral framework suggests. Each surge in general price inflation was followed by a surge in wage inflation, which was followed by more price inflation—and on it went. But the 1970s are flawed as evidence for the existence of spirals. The repeated waves of inflation stemmed more from successive oil-price shocks (in 1973 and 1978) than from prior wage gains. To the extent that wages and prices moved in lockstep, this reflected trade unions' practice back then of pegging salaries to the cost of living, guaranteeing a ratchet effect. Spirals were a feature of contracts rather than proof of an economic concept.

Late last year a group of economists at the IMF interrogated the historical record, creating a database of wage-price spirals in advanced economies dating back to the 1960s. Applying a fairly low bar—they looked for accelerating consumer prices and rising nominal wages in at least three out of four consecutive quarters—they identified 79 such episodes. But a few quarters of high inflation is not all that scary. A few years is far more frightening. Judged by this longer standard, the IMF economists offered a more upbeat conclusion: the "great majority" (they omitted the exact percentage) of short-term spirals were not followed by a sustained acceleration in wages and prices.

In a note in March, Gadi Barlevy and Luojia Hu, economists with the Fed's Chicago branch, took a closer look at the role of wages in the current episode of inflation. They focused on "non-housing services", a category that covers everything from car washes to medical check-ups and which Mr Powell regularly cites as a useful indicator because of its tight association with wages. Mr Barlevy and Ms Hu concluded that wages do help to explain this segment of inflation: nominal wage gains have outstripped productivity growth by a sizeable margin over the past year. Facing that cost squeeze, service providers would naturally want to raise prices.

However, the spiral thesis claims not merely that wages matter, but that they predict future inflationary trends. On this count, the Chicago Fed economists found the relationship unidirectional: inflation helps to forecast changes in labour costs, but changes in labour costs fail to predict inflation. Service providers, in other words, raised prices before rising wage costs hit their bottom line. Mr Barlevy and Ms Hu posit that employers may have been ahead of the curve in anticipating the effects of a tight labour market. That makes wages a lagging, not a leading, indicator for inflation.

Adam Shapiro, an economist with the San Francisco Fed, has been even more critical of the wage worries. In a note in May, he isolated unexpected changes in wages to argue that rising labour costs were only a small driver of non-housing service inflation and a negligible one in broader inflation. Like his Chicago colleagues, he concluded that wage growth was following inflation.

None of this means that wage-price spirals are a total myth, which some overeager commentators have written. As the IMF's study noted, serious spirals can occur; it is just that they are extremely unusual. Were inflation to stay very high for a long time, people might start to view fast-rising prices as a basic fact of life and incorporate that assumption into their wage demands. It is possible that this process has begun in Britain.

But in America what is striking about the past two years is how relatively moderate inflation expectations have remained, despite price pressures. In a paper last month for the Brookings Institution, a think-tank, Ben Bernanke, a former chairman of the Fed, and Olivier Blanchard, a former chief economist of the IMF, decomposed the drivers of pandemic-era inflation. They concluded that a triumvirate of shocks (commodity-price spikes, strong demand for goods and supply shortages) accounted for most of the inflation overshoot since 2020. There was scant evidence that inflation itself had triggered higher wage demands. Wages shot up simply because demand for workers outstripped supply.

Dreaming spirals

Wages and prices can be driven up by the same force: excessive spending in the economy compounded by shortages of both products and the workers to produce them. Overheated economies are worth worrying about regardless of whether prices and wages are feeding on each other.

For their part, Messrs Bernanke and Blanchard argue that as pandemic shocks fade away, overheated labour markets are likely to contribute more to inflation. To stop that, central bankers need to make sure that the demand for workers cools off. Only if inflation persists once the labour market is back in balance will fear of a self-sustaining spiral be worth losing sleep over. ■

A new kind of biology

What is an organism, anyway?

BOSTON AND LONDON

A different way of looking at living things could change health care, agriculture, nature conservation and the science of biology itself

"HOW MANY cells are there in a human being?" It sounds like a question from a nerdy pub quiz. It is also a profound philosophical inquiry. One answer is around 37trn. This is the number, in a typical adult weighing 70kg, that trace their descent from the fertilised egg which brought that human into existence.

Look at it another way, though, and you arrive at a figure roughly twice as large. That adds in the archaean, bacterial, fungal and protist cells which occupy the mouth, gut, skin, lungs and almost every other surface, nook and cranny of the human body. These cells contribute only about 0.3% to a person's body weight. But being, on the whole, much smaller than "proper" human cells, they are almost equally numerous.

That human beings have this accompanying microbiome is not news. Nor is it news that, while some of those extra cells are mere passengers, others are actively beneficial. The idea of symbiosis, in which different species live together intimately and collaboratively, goes back to the 19th century. Yet what started as a finite list of unusual cases has gradually grown to the point where it is clear that almost every multicellular organism—and even some single-celled ones—have symbionts.

This suggests to some biologists that the time is ripe for a "paradigm shift"—a new way for scientists to look at the world. Out, they say, with the old idea of plants and animals "having a microbiome", and in with the idea that both are merely parts of a united meta-organism whose components evolve in concert with each other. And in, too, with a name for these communal critters: holobionts.

Holistic thinking

One believer in this way of thinking is Thomas Bell, head of the Leverhulme Centre for the Holobiont at Imperial College, London, which opened in January. Paradigm shifts have many causes. But one that has helped tip the balance in this case is a technology called metagenomics. Dr Bell and his colleagues plan to apply it to a wide range of known and potential holobionts.

→ Also in this section

77 Gene therapy to sterilise cats

Metagenomics analyses simultaneously the genomes of everything in a sample—be it of soil, water, leaf litter or a mashed-up part of a plant or animal. Before its invention, trying to work out which microbes were present in such samples was tricky. Few bugs are amenable to being cultured in a laboratory, so many were, in effect, invisible to science. These days you can run a relevant extract of any organism you care to mention through the metagenomics mill—and if you do so, it is likely to show up as a holobiont.

Dr Bell and his colleagues are looking, in particular, at insects, amphibians and plants. Besides being eukaryotes—meaning their cells have proper nuclei and contain complex structures called organelles—these have little enough in common, evolutionarily speaking. Each group was picked for study because viewing its members as holobionts rather than individual creatures is illuminating.

Among insects, the centre is starting with bark beetles and honeybees. Bark beetles' holobiont nature is emphasised by the fact that some have evolved special structures called mycangia, which carry fungal spores. The spores grow thin tendrils called hyphae that allow them to digest wood. That releases nutrients which the beetles can metabolise. But if these fungi (one of the best known of which causes Dutch elm disease) get out of hand, they can devastate entire forests. ▸▸

Honeybees, meanwhile, are important pollinators, a behaviour that may result in hives exchanging microbiomes via flowers their members visit. Some bee populations also show signs of being under stress, possibly from insecticide use. Several of Dr Bell's colleagues suspect the explanation for this lies not in the animal part of the holobiont, but rather in its microbial part.

Amphibians are on the list because many are threatened with extinction by skin fungi called chytrids, which have been spread from their Asian homeland by humans. Along with researchers at London Zoo, the centre's scientists are studying the diversity of amphibian skin microbiomes, and whether this can give the meta-organism immunity to chytrid infection.

Plants find themselves in the centre's crosshairs because most are accompanied by a "rhizosphere" of bacteria and fungi attached to, or even penetrating their roots. The rhizosphere's biochemical pathways increase the range of nutrients available to the holobiont as a whole. The rhizosphere is sustained in turn by carbohydrates and other nutrients synthesised by the holobiont's plant component.

A beneficial alliance

Work like Dr Bell's means the idea of holobionts as a meaningful category is catching on (see chart). But for it to be accepted fully, it needs to be disentangled and defined. As Scott Gilbert, a developmental biologist at Swarthmore College, puts it, "This notion [of holobionts] challenges and seeks to replace the concept of a monogenomic individual whose essential identity arises during development, is maintained by the immune system, and which is selected through evolution." That is a big claim.

One possible stumbling block is individual continuity. For organisms as conventionally classified, the link between parent and offspring is clear. For putative holobionts, it can be less so. Rather than growing from a single fertilised egg, holobionts have to be assembled. Sometimes the components are passed between parents and offspring. Humans, for example, are born with some microbes already in their guts. They pick up others during the messy process of birth, and more from their mother's milk. In these circumstances it is easy to see how the various components of a holobiont could co-evolve into a single, functioning unit.

Plants tend to make their associations horizontally—forming alliances with microbes already living in the soil in which they germinated. That might be thought to weaken the case for the resulting alliances behaving as single evolutionary units. In fact, calculations by Joan Roughgarden, an evolutionary biologist at Stanford University, show that horizontal transmission also supports co-evolution, and thus the emergence of true holobionts.

One piece of evidence to suggest she is right comes from a study of switchgrass by Thomas Juenger, a biologist at the University Texas, Austin. If plants and their rhizospheres are evolutionary units, they might be expected to collect a "core" microbiome that is encouraged into existence by specific genes in the plant. Switchgrass has three genetically distinct populations in North America. By comparing these and their associated rhizospheres, Dr Juenger showed a relationship between a plant's genes, particularly those associated with its immune system, and which bacteria thrived in the resulting rhizosphere.

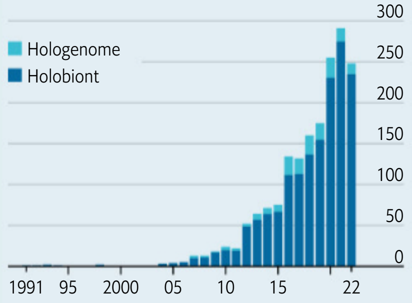
Sometimes, as with bark beetles and their mycangia, the evolutionary integration of primary host and microbiome is obvious even without a genetic analysis. *Mastotermes darwiniensis*, an Australian termite, relies on gut microbes to break the tough wood it eats into molecules which the holobiont's animal part can metabolise. *Mixotricha paradoxa*, one of those fibre-digesting components, is itself a composite of a protist (a single-celled eukaryote) and four types of bacteria. Lynn Margulis, the American biologist who coined the term holobiont in 1991, called this critter "the beast with five genomes".

Aphids are equally intriguing. All members of this group carry bacteria of the genus *Buchnera*, a variety unknown anywhere else. In a relationship reckoned to date back around 200m years, *Buchnera* live inside specialised aphid cells called bacteriocytes. The bacteria are so cossetted that they have shed most of the genes they started with, relying on their animal partners to fill the biochemical gaps. In exchange, they synthesise amino acids the insects are unable to make for themselves.

Nor does the story end there. Many aphids host a second bug, *Hamiltonella defensa*, in their bacteriocytes. These critters, which also rely on *Buchnera* for their supply of amino acids, kill the larvae of parasitic wasps that would otherwise consume an aphid alive. But that, in turn, happens only in the presence of a virus called APSE—an even smaller metaphorical flea in the holobiont hierarchy.

I contain multitudes

Occurrence of terms in scientific papers*



Source: Julian Marchesi, Imperial College London

*Web of Science Core Collection

All that is reminiscent of the most extreme case of holobiontry: that of organelles called mitochondria and chloroplasts. Mitochondria generate energy by metabolising glucose, and are found in all eukaryotes. Chloroplasts engage in photosynthesis, and are restricted to algae and plants. Both are the distant descendants of formerly free-living bacteria that began their relationship with the cells they now call home over a billion years ago. (It was these two cases which led Margulis to coin the term holobiont.)

The holobionic man

The varying degrees of intimacy on display—from surface passenger to vital cellular component—do raise the question of where, exactly, the borders of the term "holobiont" lie. But biology is full of concepts that are at once fuzzy and useful ("species" is one). Perhaps the most important job of the concept is to act as a reminder to biologists never to neglect a possible role for the microbiome in any phenomenon they are trying to understand. For example, the study of the evolution of pesticide resistance in insects usually involves the genome of the insect itself. But resistance by pests called bean bugs to fenitrothion, an insecticide, is conferred by bacteria of the genus *Burkholderia* which live in their guts—important knowledge, if you want to counter that resistance.

And there are even stranger powers brought to holobionts by their microbial parts. For example, certain bacteria are sensitive to magnetic fields. Researchers suspect some may have formed alliances with creatures such as turtles and birds, enabling these animal-based collectives to use Earth's field to navigate. More familiarly, it is the holobiont nature of dogs (and also hyenas and other carnivores with anal glands) that enables them to communicate via scent marks. The odours they deposit this way are created by bacterial degradation of secretions into these glands.

The best studied animal holobiont of all is *Homo sapiens*. Topologically, a human being is a torus—a three-dimensional object with a hole through the middle. The hole in question is the alimentary canal. Nearly the whole surface of this torus is home to microbes, though different parts have different inhabitants. By far the largest numbers of them live in the lower gut.

These gut microbes extend the digestive capabilities of the human holobiont in the same way (though not to the same degree) as happens in termites, by breaking up fibrous plant polymers into smaller molecules that the other 37trn cells can metabolise. But they produce lots of other molecules, too, some of which send signals to the holobiont's animal cells. Those cells, moreover, often signal back.

This signalling seems particularly influential over parts of the nervous system. Among the molecules secreted by gut bacteria are serotonin, GABA and catecholamines. All are neurotransmitters, chemicals which carry impulses between nerve cells. The microbiome is thus an integral part of the gut-brain axis, the constant neural chatter between the largest group of nerve cells in the body (the central nervous system) and the second-largest (the enteric nervous system).

The third big interaction between host and microbiome involves the immune system. This brokers the deal that keeps the whole show on the road by preventing any particular part of the microbiome running riot—a task at least as important as fending off infectious diseases. In return, a well-balanced microbiome assists the immune system by preventing pathogenic bugs from multiplying in the intestines.

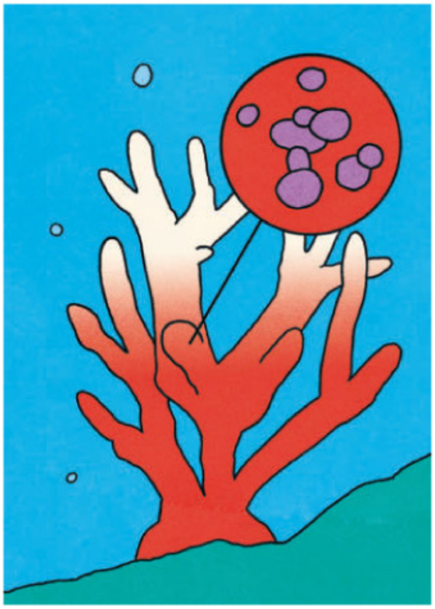
The gut microbiome is thus deeply integrated with the mammalian part of the human holobiont—as can be seen when that integration goes wrong. Dysbiosis, as this is known, is at least associated with, and in many cases probably helps cause, obesity, diabetes, high blood pressure, atherosclerosis, asthma, inflammatory bowel disease, some liver diseases, various cancers, autism, Parkinson's disease and depression. And this is not an exhaustive list.

Looking beyond the 37trn mammalian cells in this way can be medically fruitful. A largely plant-based diet, for example, encourages fibrolytic bugs, while a meat-rich one favours those that thrive on fat and proteins. As a consequence, plant-based diets yield molecules such as butyric and propionic acids which are known to regulate inflammation and other immune-system functions. Meat-based ones result in branched-chain fatty acids, and phenols and indoles, which have a range of bad effects, including being risk factors for bad cardiovascular health.

Fixing things with holobionics

Crop breeders, too, are starting to take the holobiont concept seriously. Field agents for Indigo Ag, in Boston, Massachusetts, identify rare survivors in farmers' fields of events like droughts and infestations, and send these plants in for study. The assumption is that there is something special about such survivors. Indigo's foundational guess was that this special something is often in the rhizosphere.

Pursuing that thought, the firm has found—and now markets—rhizospheric bugs which confer drought-tolerance on cotton, maize, soyabeans and wheat; improve resistance to fungi in maize, soyabeans and wheat; guard against nematode attack; liberate phosphorus and potassium from the soil; and "fix" atmospheric nitrogen by turning it into molecules such as nitrates, which plants can use to make amino acids, the building blocks of proteins.



Another firm, Pivot Bio of Berkeley, California, is concentrating on nitrogen fixation. Pivot's researchers have edited the genes of two types of nitrogen-fixing bacteria so that they continue to work even when there is already plenty in the soil, and also turn out more fixed nitrogen than they usually would. When planted alongside a crop such as maize, a cocktail of these bugs provides an instant, nitrogen-fixing rhizosphere for each seedling. That can reduce fertiliser use by a fifth.

Jean-Michel Ané of the University of Wisconsin-Madison, who is, inter alia, a scientific adviser to Pivot, has two other nitrogen-fixing ideas up his sleeve. One, observing that legumes grow special root nodules to house nitrogen-fixing bacteria, is to reshape the roots of cereals (rice is the main target) so that they grow similar nodules. He and his colleagues have identified two leguminous genes that, when transplanted to poplars (a common experimental plant) cause them to grow nodules too.

Dr Ané's other idea is based on unusual strains of maize and sorghum that grow aerial roots which secrete a gel in which nitrogen-fixing bacteria like to live. This gel then drips to the ground, where the fixed nitrogen is absorbed by the plant's roots. In the case of maize, he and his colleagues have managed to cross-breed plants carrying this trait with commercial cultivars, and are now into the fifth generation of plants bearing it.

Cattle and other livestock are also coming under scrutiny. Their termite-like digestive systems generate more than 100m tonnes of methane a year, about 6% of the greenhouse-gas emissions for which humans are responsible. The bugs in question can be curbed by adding either of two substances to cattle feed—a chemical called 3-nitrooxypropanol or a seaweed called *Asparagopsis taxiformis*. Indeed, adding *A. taxiformis* not only curbs methane output, but also increases the conversion rate of feed into milk or meat.

Conservationists see promise in thinking of organisms as holobionts, too. That is the motive for Dr Bell's work on amphibians. Others, though, are looking to help entire ecosystems. Both forests and coral reefs are temperature-sensitive and thus threatened by global warming. Viewing their members as holobionts may allow ecologists to help them adjust.

Like Indigo's researchers, Cassandra Allsup, Isabelle George and Richard Lankau, of the University of Wisconsin–Madison, have been looking at soil microbes. They have sampled forests in their home state and in Illinois to the south. Testing seedlings of various species grown near the north and south of this span, which are 5.8 degrees of latitude apart, they found that those grown in soil inoculated with bacteria from sites with similar climates grew faster than those in soil given bugs from different ones. Though inoculating entire forests is not practical, they hope that treating nursery-grown saplings intended for local reforestation projects might help those trees' survival.

Like humans, corals are a particularly well-studied meta-organisms. Their tourist-attracting colours come from photosynthetic protists called zooxanthellae that live inside special cells in the sessile animals responsible for secreting the limestone of which coral heads are made—and it is these which provide the holobiont with most of its nutrition.

A weakness of this arrangement is that if zooxanthellae get too hot, their photosynthetic mechanisms go haywire, generating toxic oxygen-rich molecules called free radicals. The coral animals then expel them, a phenomenon called bleaching. If conditions return to normal in time, recolonisation may occur. But corals that remain bleached for too long will die.

Some people are trying to inculcate resistance to rising temperatures by tinkering with the genes of the animal part of the system. But Madeleine van Oppen of Melbourne University, in Australia, and Raquel Peixoto of King Abdullah University, in Saudi Arabia, are looking, in separate projects, to tweak either the zooxanthellae, or some of the many bacteria which are also part of the holobiont.

Such ecosystem engineering represents holobionic thinking on a grand scale. Whether it will lead somewhere fruitful remains to be seen. But the very fact that it is happening at all is, surely, testament to an idea whose hour has come. ■

Animal contraception

Don’t have kittens

A new vaccine suggests there’s more than one way to spay a cat

Running a city can be an expensive business. There are potholes to fix, policemen and firefighters to fund, and mountains of refuse to collect. In many cases, the kitty is empty.

Other sorts of kitties cause problems, too. Some 480m of the world’s 600m domesticated cats are thought to be free-roaming. Strays can be unsightly and can spread diseases, either to each other or to people. Many endure short and uncomfortable lives. Even those that land on their feet can cause suffering elsewhere—more than 60 species of animals, ranging from mice to birds, have been hunted to extinction by predatory cats.

Fixing the problem, as well as the cats, is not cheap. Tel Aviv, which has tens of thousands of the animals, has spent over $100,000 a year on neutering programmes alone. Now, though, a paper in *Nature Communications* suggests a single jab could offer a cheap, safe and long-lasting way to sterilise a cat.

The technology involved is gene therapy, in which a gene is carried into an organism’s body, usually by a modified virus, in order to fulfil some additional function. This has been gaining momentum in humans, with seven different gene therapies approved by America’s Food and Drug Administration as of this February. Most are designed to target rare genetic diseases, including haemophilia B, where mutation causes problems with blood clotting.

David Pépin, a molecular biologist at Harvard University, came to realise the same techniques could also be used to induce contraception. His laboratory was investigating a lesser-known reproductive hormone called AMH (anti-müllerian hormone), which is produced by the follicles that house immature egg cells in mammals. These follicles grow inside the ovaries until they burst, releasing their cargo into the fallopian tubes and towards potential fertilisation. More mature follicles produce AMH in order to slow down the growth of those eggs remaining in the ovaries. The hormone acts as a red traffic light, as it were, to ensure the flow of maturing eggs is not too rapid.

Dr Pépin concluded that persuading a mammal to produce higher-than-usual amounts of AMH—by inserting the right type of gene—might strengthen this braking signal and halt follicle production altogether. After initial successes in rodents, he joined forces with Bill Swanson at the Cincinnati Zoo and Botanical Gardens to test the idea on cats.

In 2019 the researchers injected six cats with a harmless virus that contained a synthetic copy of a feline AMH gene, and three control cats with the virus alone. The virus they chose was able to deliver its payload direct to the cats’ muscle cells. These cells are ideal for two reasons. First, muscle cells are perfectly placed to pump hormones such as AMH into the bloodstream and thence into organs across the body, including the ovaries.

Cute but deadly

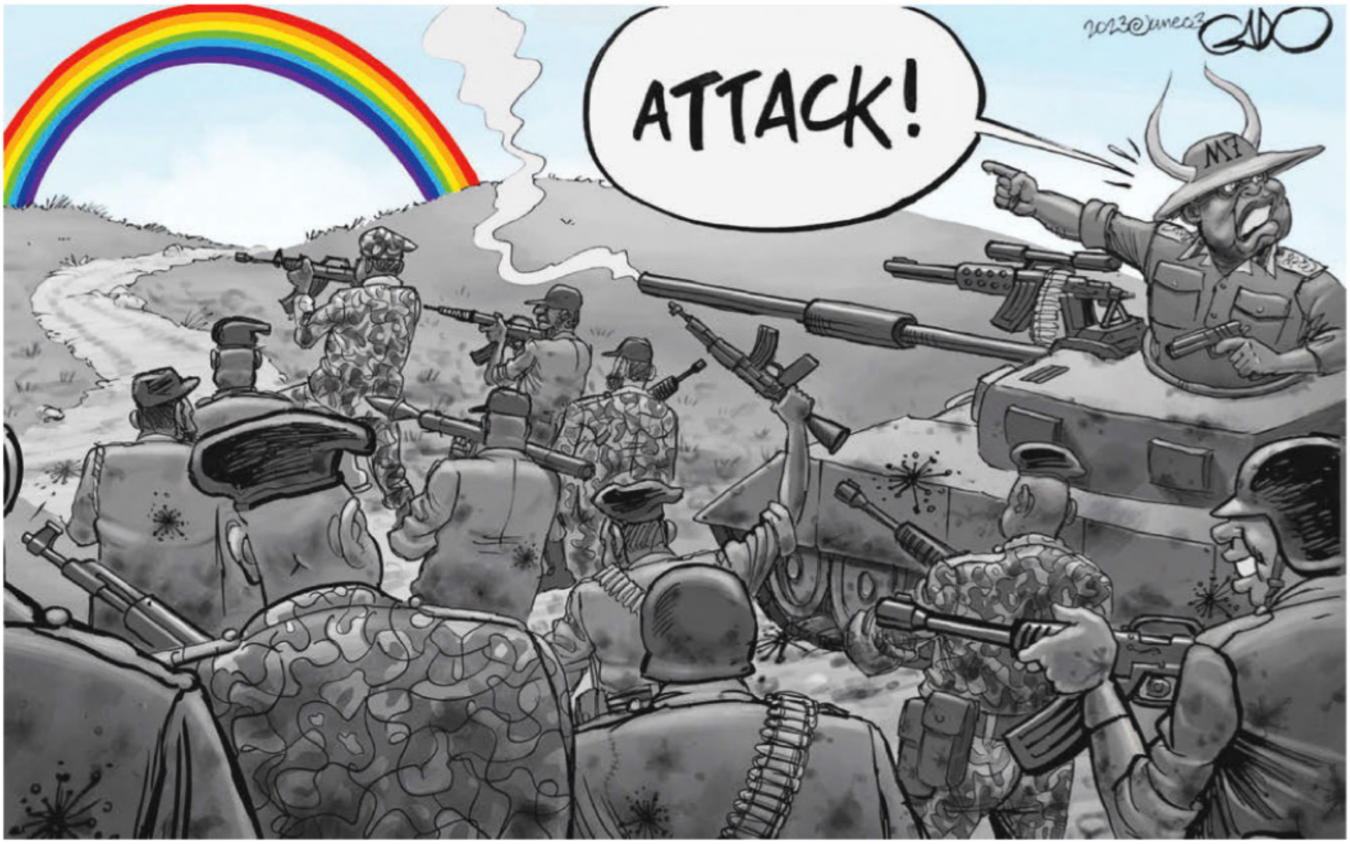
Second, muscle cells neither die off nor split in two during an animal’s lifetime. That ensures the new genes they had been armed with would not disappear over time—essential for permanent sterilisation. This is particularly important for the delivery mechanism employed by Dr Pépin. While most of an animal’s genes are contained in strands of DNA inside the nuclei of cells, the AMH gene floats around in the cellular cytoplasm. Despite its unorthodox location, it is still capable of instructing the cell to produce hormones.

All nine cats—which were named after the wives of American presidents—then had their faeces monitored over the course of two years so that the levels of their reproductive hormones could be checked. In order to ensure the right cats were being matched to the right scat, each was fed food with a different coloured dye or, for a few fabulous individuals, glitter. After eight months, and then again after 20 months, male cats were introduced into the living quarters so that the females’ breeding patterns could be assessed.

Though the three control cats (Michelle, Nancy and Rosalyn) ovulated and got pregnant, the six injected with the gene-carrying virus (Betty, Dolly, Jacqueline, Abigail, Barbara and Mary) did not. Each had levels of AMH up to a thousand times higher than before they were treated. Four refused to even try to breed, and the two that were still receptive to the idea had no pregnancies. “These cats are not able to reproduce,” concludes Dr Swanson.

While the precise mechanisms in cats and rodents are not identical, high levels of AMH seem to have a contraceptive effect in both species. Dr Pépin hopes AMH could become a useful target in human contraception too—though as a pill with temporary effects rather than a permanent injection. Presently, the most common kind of hormonal contraception is the combined pill, which contains oestrogen and progesterone. These limit the release of hormones which cause follicles to ripen, and thicken the mucus at the entrance of the womb, preventing the passage of sperm.

But there are oestrogen and progesterone receptors all over the body, not just in the reproductive system. Synthetic hormones affect those as well. That is one reason for the pill’s many side-effects, including mood swings, nausea and headaches. AMH receptors in humans are much more specific, being found mostly in the reproductive system. The hope is that a contraceptive that targets AMH may therefore be one with many fewer side-effects. ■



Political cartoons in Africa

The king does not arrest a satirist

KAMPALA

For the boldest commentary on Africa's politics, look to its cartoonists

THE PRESIDENT is a gun-toting dairy farmer who is milking his "cowntry" dry. His brother takes the form of a pair of sinister sunglasses eyeing the national pension fund. His son is a toddler in an oversize army hat who has not learned to tie his shoelaces.

Or so they appear in the imagination of Chrisogon Atukwasize, the man with the sharpest pencil in Uganda. Signing himself "Ogon", he uses his cartoons in the *Daily Monitor* newspaper to shame the corrupt and upbraid the powerful. Last year soldiers kidnapped and tortured the writer of a satirical novel which featured one of his illustrations on the front cover. They were said to have also made inquiries about Ogon. He responded with a sketch of a torturer drawn as one of the Minions—characters in "Despicable Me", an animated-film franchise—struggling to read the offending book.

Criticism of the authorities is not entirely silenced in Uganda. But under Yoweri Museveni, a rebel who fought his way to power and has kept it for 37 years, the real news is often hidden between the lines. Cartoons revel in such ambiguity; after all, in a picture, everything can be a kind of subtext. Illustrators use their relative freedom to probe deeper than most journalists in the region dare to. At first, Ogon just wanted to draw. Later, he says, "You find you have a cause to push."

That situation holds true all over Africa, where satirists are often the boldest commentators on politics and vice. "Cartoonists use visual imagery as a kind of mask, to conceal in order to reveal," says Ganiyu Jimoh, a Nigerian cartoonist and scholar. He compares the wit and allusions in cartoons to the traditional masquerades in Yoruba culture, in which masked performers would ridicule the powerful. As an adage has it, "Oba kii mu onkorin": the king does not arrest a satirist.

→ Also in this section

79 Deciphering eastern Europe
80 Cormac McCarthy's fierce vision
81 The genius of Irish crisps
81 The truth of a New York cult
82 Back Story: "The Full Monty" zips up

The first press cartoons in Africa were drawn by white colonialists—and were often racist. In the 1930s black artists began to publish political cartoons in Nigeria and South Africa. But African cartoons truly blossomed in the 1990s, as a democratic wave washed over the continent. In Francophone countries satirical periodicals flourished, modelled on *Le Canard enchaîné*, a French weekly. The Senegalese everyman Goorgoorlou, created by the cartoonist Alphonse Mendy, crossed from the page to the television screen, a popular hero for an age of economic hardship at the close of the millennium.

Satirists wore their politics on their sleeves. South Africa's most famous cartoonist, Jonathan Shapiro—better known by his pen name Zapiro—was a white anti-apartheid activist who had taught himself cartooning in the 1980s after being forcibly conscripted into the army. In Kenya, the ramparts of authoritarianism were breached when cartoonists began to draw the president for the first time. "A cartoon is like that little boy that can say the emperor is naked," says Godfrey Mwampembwa, or Gado, east Africa's greatest satirist.

Today most countries in Africa have multiparty elections and an independent press. But in many places democracy is a paper-thin veneer, at which cartoonists caustically scratch away. Even in the freest societies, satire has come under pressure. Jacob Zuma, the former president of South Africa, tried to sue Zapiro over a cartoon which showed him preparing to rape Lady Justice. Gado got into trouble in 2015 after drawing the president of Tanzania as a half-naked sybarite fed by women labelled Cronyism, Incompetence and Corruption. The *EastAfrican*, the paper in which the sketch appeared, was banned in the country; the next year, Gado lost his job.

But he is still drawing. His recent targets have included Uganda's hateful new anti-gay law, which prescribes the death penalty for "aggravated homosexuality" and was signed by President Museveni in May (see image on previous page). Like other cartoonists, Gado sometimes uses his art as camouflage for pithy verbal commentary. Many of his cartoons feature a tiny, squiggly figure in the corner—"my alter ego", he quips—offering quirky reflections of its own. "When I started I would use that as a way of getting away with stuff because editors wouldn't pay attention to it," he says. With time it became a technique to add extra layers to his work. The inherent power of cartoons, he adds, is that they are "open to interpretation".

Artistic licence

That ambiguity has proved useful to the Zimbabwean cartoonist Tony Namate, who says the role of satire is "to punch holes in the hot-air balloons of politicians". On one occasion a crowd of war veterans besieged the newspaper offices where he worked. On another his editor was dragged to court after he sketched a figure that seemed to be Robert Mugabe fleeing a mob. The prosecution could not prove that the caricature was indeed of the former president, and the case eventually collapsed.

Most African cartoonists now use the internet to share their work—especially when it is deemed too controversial to make it into print. "If it can't run in the publication, then that's well and good, you publish it on your socials instead," says Celeste Wamiru, a Kenyan cartoonist. On Twitter and Facebook cartoons take on a life of their own, unmoored from newspapers and floating in a sea of memes. New kinds of satire evolve. In April Jimmy Spire Ssentongo, a Ugandan cartoonist, invited the citizens of Kampala to an online exhibition of the city's potholes. Photographs of cratered roads flooded social media and the president swiftly promised action.

The community of African cartoonists is growing, supported by networks such as Cartooning for Peace, an association based in France. But some voices are still lacking. Most cartoonists are men, who can be too quick to deploy gendered images or sexual metaphors. Ms Wamiru became the first woman to be employed as an editorial cartoonist in east Africa when she was hired by the *People Daily* in 2011. Women are taught to "take a back seat and be led", she says. One of her cartoons shows a stooped mother carrying her husband in a basket, while he dreams peacefully of money.

A cartoonist's work is never done. Ogon laments the fact that Ugandan politicians are just as corrupt as when he first picked up his pen. Some rage at his scabrous caricatures. But sometimes, he says, he gets phone calls from people on the inside, who know the truth and are scared to speak out themselves. "Don't relent on your cartoons," they tell him. ■

European history

East is east

The eastern half of Europe is united by diversity, says an insightful chronicle

Goodbye, Eastern Europe. By Jacob Mikanowski. *Pantheon; 400 pages; $30. Oneworld Publications; £22*

For most of the past three decades, the received view of eastern Europe, defined roughly as the territory between Germany and Russia, has been breezily optimistic. A region that exemplified the cultural and intellectual vim of the old continent had escaped a cruel communist yoke. It was now free to make an uneven but inexorable recovery, joining the West's institutions and following its political and economic models.

Among Eurocrats, multinational lenders and NATO strategists, any difference between the countries in "central and eastern Europe", to use the new nomenclature, mattered less than their common recent past and collective destination. Even the wars in the former Yugoslavia were seen as a nasty blip rather than a reversal of these trends. Ditto the emergence of chauvinist politics in Poland and Hungary: that was a disappointment, not a sea-change.

One of the merits of "Goodbye, Eastern Europe" by Jacob Mikanowski, an American writer and scholar brought up partly in Poland, is that it challenges this glib view from several angles, some of them unexpected. Distilling more than a decade of research, he carefully argues that if something marks out Europe's eastern half, it is not homogeneity but wild, glorious diversity, including the long presence of Judaism, Islam and religious practices that blended Christianity and paganism. More edgily, he contends that communism, including the Soviet sort, was not an alien phenomenon but had been deeply rooted in the region since the early 20th century.

Both his Polish grandfathers, Mr Mika-

The way they used to live

nowski notes, became communists after considering a narrow range of other options, including Zionism, emigration and staying in a traditional Jewish community, or *shtetl*. With disarming openness, he shares the story of one of them, a partisan fighter with an impressive war record—he helped free several hundred fellow Jews from a camp in Belarus—who in the 1950s assisted in a communist sting that embarrassed Poland's underground opposition and its Western friends.

Readers might wonder how the author's emphasis on cultural and ideological variety squares with his title, which seems to suggest that the east of Europe was in the past a distinct, coherent region. His answer is implied rather than spelled out. In describing pre-industrial history, he stresses how diversity and bouts of sectarian hostility co-existed with fusions and overlaps. Thus for all the social barriers between them, Jews and Christians relied on each other's folk remedies, faith healers and exorcists. They formed a single religious ecosystem. In communist times, another odd symbiosis developed between dissidents and the secret police who devoted huge resources to monitoring and circumscribing their lives.

In this way—and for all the power of dynasties, emperors and 20th-century tyrants—the region spawned distinctive grassroots cultures and hosted an ingenious interplay between groups and ideologies. That talent was not entirely eliminated by the Holocaust, nor by Soviet-led communism, but may now be threatened by globalisation. Such, broadly, is the author's view (though he makes the last point more explicitly elsewhere).

He yearns for the survival of an east European world in which people react unpredictably to their geopolitical or economic masters. In practice, though, the line between downward pressure and local ingenuity is harder to draw than he allows.

Take the book's final section on Russia's invasion of Ukraine. Mr Mikanowski makes the familiar point that after Ukraine became independent in 1991, its leaders struggled to form a nation out of the Russophone east of the country and the post-Habsburg west. Then the Kremlin simplified that task by claiming Ukraine had never existed and should never exist. The courage, and creativity, of the Ukrainians' response is visible to all.

Not for the first time in the region's history, a common struggle to defy annihilation is forging new social, cultural and psychological realities, which neither external nor domestic leaders can control. The fallout from that life-and-death conflict is being felt in every adjacent land, creating new fissures and new transnational bonds. It may still be too soon to say goodbye to eastern Europe. ■

A great American novelist

How the West was won

NEW YORK

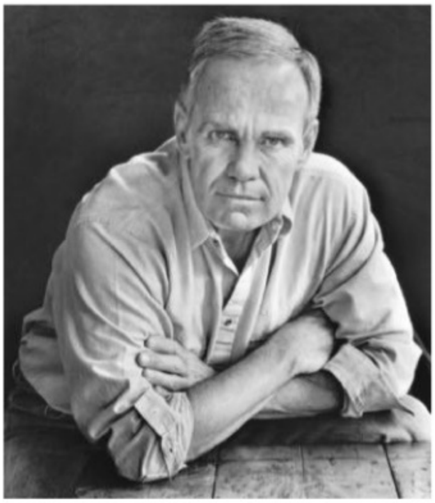
In his fiction Cormac McCarthy faced a bloody past and never looked away

William Faulkner is the bard of the American South. Saul Bellow is the supreme chronicler of Chicago. New York is contested territory. For a long time, Wallace Stegner could have laid claim to the West. But that was before Cormac McCarthy hit his stride.

To understand the American West, you need to know the land and its beautiful, terrifying expanse, as Stegner did. But in his fiction Mr McCarthy, who died on June 13th at the age of 89, grasped and dramatised another essential truth: that the West was won with violence. The saga of the region's piecemeal incorporation into America involved bravery, gumption and careful planning—but also decades of brutal, intimate bloodshed. It haunts every strip mall and stylish restaurant and housing development from Kansas City to Los Angeles and beyond. This was Mr McCarthy's subject: the reality and implacability of cruelty and conflict.

The great theme of his career is all the more striking because this was not his native territory. He was born in Providence, Rhode Island, in 1933 with the first name Charles. At some point he changed it to Cormac, supposedly in honour of an Irish ruler, and he grew up mostly in Knoxville, Tennessee. His early novels—"The Orchard Keeper" (published in 1965), "Child of God" and "Suttree"—were deeply Faulknerian: arch, self-referential and largely plotless.

He gained fame with his "Border trilogy": "All the Pretty Horses" (1992), "The Crossing" and "Cities of the Plain". Like all his fiction these were demanding stories, but they won him a wider readership, especially "All the Pretty Horses". Elegant and well plotted, it was made into a film starring Matt Damon and Penélope Cruz at the start of their careers. The best book in the trilogy was the last. It was austere, bloody and hopeless, as the West had been for those on the losing end of its conquest.


Never look away

The best film adaptation of Mr McCarthy's work was the Coen brothers' version of "No Country for Old Men", a slim, propulsive, noirish novel published in 2005. A wonderful film that was true to the author's vision, it featured commanding performances from Josh Brolin as the foolish hero; Javier Bardem as his psychopathic nemesis; and Tommy Lee Jones, who imbues the sheriff of the story with a world-redeeming, plain-spoken goodness. Published in 2006, and recounting the plight of a father and son in a post-apocalyptic world, "The Road" won a Pulitzer prize and also became a film.

But Mr McCarthy's best novel—and arguably the best work of fiction written in English in the past 50 years—was "Blood Meridian". Its narrator, "the kid", joins a gang of Apache hunters who are hired to collect scalps at $100 apiece. Despite his deeds the kid, like Mr Jones's sheriff, has a stubborn decency, though it proves no match for his milieu.

Mr McCarthy based the book in part on the real-life Glanton Gang, scalp-hunters who haunted what is now Sonora, New Mexico, and bits of Arizona. It features one of literature's most pitiless and vibrant depictions of vice, in the form of a quasi-mythical character, fat and hairless, who becomes the novel's amoral centre. Its plot is relentlessly violent, the language almost biblical. Finishing it takes determination; at times it seems perversely intent on persuading readers to give up. The baroque descriptions of gore include a tree with dead babies hanging from the branches and a head split open "to the thrapple".

Persist: "Blood Meridian" makes art out of man's inhumanity to man. To read it is to know what not to do and how not to live, but also to confront an aspect of the past that all Americans inherit. It is not exactly redemptive; rather it bears witness. Mr McCarthy does not look away. He never did.

He lived a deeply unliterary life in the south-west, preferring the company of scientists to authors. He gave few interviews and appeared uninterested in fame (though the daring of his books suggests a fierce ambition). If his last two novels, published in 2022, were too abstract and psychological for some, they were also works of striking vibrancy and originality from an author who was nearly 90. In his mature prose Mr McCarthy was wholly himself, original and distinctive. For a novelist there is no higher praise. ■

GUINNESS
TAYTO
Cheese & Onion
The Original Irish Crisp

World in a dish

To everything there is a season

Saving foods, however quotidian, for particular times and places is a joy

What is nirvana for a potato? To be sliced and slivered and bathed in boiling oil before emerging as a French fry? To have its weight matched in butter and cream and be transformed into glorious mounds of mash? No. The answer is found in a plastic bag. For a potato, there is no nobler fate than to end up in a packet of Tayto cheese-and-onion crisps.

Taytos are the consummate crisps (potato chips to Americans). The company was established in Ireland in 1954 by Joe "Spud" Murphy. He was not the inventor of crisps, but he has been credited with transforming them. Until then there was no way to flavour the individual crisps themselves; instead each bag came with a small blue packet of salt to be sprinkled and shaken over the contents.

The invention after the second world war of the gas chromatograph dispensed with that DIY process. It allowed food scientists to understand the chemical compounds behind flavours such as cheese. That in turn led to the development of artificial flavours, an advance on which Murphy seized to great effect.

He started with cheese and onion. The pairing is a classic: think of the strings of Gruyère emerging from a bowl of French onion soup, or a dish of Käsespätzle, German dumplings that are mixed with cheese and topped with caramelised onions. And the flavour combines well with spuds. Potatoes, wrote Seamus Heaney, one of Ireland's greatest poets, promise the "taste of ground and root". The less poetic might describe them as a bit bland. Sprinkled with the salty, savoury umami of Murphy's seasoning, however, they became a cut-price sensation.

Taytos remain the quintessential Irish crisp, but now they are available elsewhere (as, of course, are many other brands of flavoured crisps). That is a mixed blessing. Once upon a time even industrially produced foods had a limited range. To travel was to discover not only the cooking in other places, but the snacks. Going to France was a chance to chug a bulbous bottle of Orangina, a fizzy drink. For Europeans, a trip to America—or a visit from Americans—was an opportunity to stock up on Reese's Peanut Butter Cups. Thanks to a globalised food system and the appetites of homesick migrants, such items are now available far beyond their lands of origin.

That shift entails the loss of a modest joy. At first glance a bag of Taytos is the antithesis of a seasonal or local food, characteristics that today are prized. Encased in their silvery plastic, they survive in all seasons and locales. And yet, for your columnist at least, these potato snacks are entangled with their Irish roots.

For her, Taytos are a once-a-year treat, to be eaten on a beach in south-west Ireland shivering after an icy swim or sweating at the top of a mountain. That is not out of necessity. They can be bought in London, her home city, or ordered on the internet, albeit at a mark-up. The ingenious seasoning should taste no different in a London park than in Murphy's homeland. But somehow it does. ■

American cults

Paradise bossed

The Sullivanians. By Alexander Stille.
Farrar, Straus & Giroux; 432 pages; $30

"How many cults have reunions?" So muses a former member of the Sullivanians, a therapeutic community that thrived in New York in the 1960s. As Alexander Stille shows in this absorbing account of the group's rise and fall, many of its alumni do indeed remain in close contact with each other. But others regard it as a failed utopia or even "the most traumatic experience of their lives". One interviewee tells Mr Stille, whose previous books have covered his own parents' marital woes and the Sicilian Mafia, that he "joined a movement that turned into a business, that became a racket". Another describes the Sullivanians' driving force, Saul Newton, as "a sexual monster".

The Sullivan Institute for Research in Psychoanalysis was named after Harry Stack Sullivan, a psychiatrist who was heavily influenced by the work of Sigmund Freud. Isolated as a child, Sullivan took a keen professional interest in the problem of loneliness—and in its antidote, which he called "chumship".

In 1957 Newton and his wife, Jane Pearce, both followers of Sullivan, founded a centre that would expand on the radical implications of his ideas. Then a highly regarded therapist, Pearce shaped the group's theoretical framework and gave it credibility. Meanwhile Newton, who liked to brag about his exploits fighting fascists in the Spanish civil war, lent it his charisma. Together they acquired a handsome town house on the Upper West Side and built a summer retreat on Long Island.

Newton and Pearce believed that the nuclear family was an instrument of "deadening conformity", which trapped children and stifled parents. Instead they favoured "group marriage", a mode of polyamory that allowed adults to luxuriate among "alternate validators", while their offspring were brought up by baby-sitters or sent away to boarding schools.

At first the Sullivanian community prized creativity. Notable patients included the artist Jackson Pollock, Lucinda Childs, a choreographer, and Clement Greenberg, an art critic who championed Abstract Expressionism. In the mid-1970s the focus narrowed: its main artistic channel became the Fourth Wall Repertory Company, which staged shows such as "The King of the Entire World", a musical ▸▸

which appeared to shed light on Newton's autocratic mindset.

Many of those who took part in Sullivanian therapy, and especially the men, were drawn by the prospect of easy sex. But this was not a zone of unfettered hedonism. Rules abounded. These extended to food, prompting one member, who had been required to travel to a conference in Indiana with provisions from New York, to contemplate his wilting salami and reflect: "I don't think Armageddon is going to happen if we have a cheeseburger."

Rigid codes were supposed to foster closeness. Yet what to some members seemed the atmosphere of a tight-knit village struck others as a grotesque culture of surveillance. The leaders purported to be communists but revelled in hierarchical privilege. As disciples fretted about status and earning "prestige points", Newton—who was divorced from Pearce in the early 1970s and married six times in all—ran amok. (A serial predator, he demanded sexual favours from a woman who had very recently given birth.) He died in 1991, aged 85; in his declining years his appetites became violent and abusive.

Mr Stille carefully documents the institute's unravelling and eventual collapse in the 1990s, as Newton's last two wives feuded over his legacy. The author is sensitive to the human cost of this experiment, even if occasionally his language is rather breezy (one character goes on a "wild paternity rollercoaster"; the state of mind of others is "somewhat schizophrenic"). He elicits zinging critiques from his sources—not least one of Newton's daughters, Esther, who remarks that her father's project "combined the worst of Marxism, psychoanalysis and the musical theatre". ■

Back Story They can leave their hats on

"The Full Monty" grapples with the challenges of austerity—and of sequels

UNEMPLOYMENT, ATTEMPTED suicide, sexual dysfunction, the impending repossession of a sunbed: in "The Full Monty" all manner of woes inspired six former steelworkers to strip to their birthday suits for a raucous paying audience. Gaz, their ringleader, played by Robert Carlyle (pictured), was an ex-con at risk of losing contact with his son. Overweight and depressed, his best pal Dave (Mark Addy) feared for his marriage. All six were adrift and emasculated in the post-industrial world. It was a hoot.

And not only because of the penis jokes and the fact that they got their kit off. Released in 1997, the film exemplified two winning genres. First, a tale in which a posse of misfits seek salvation in a shared endeavour—a brass band, a choir—as the clock ticks towards a showdown. Second, as "Rocky" was to Philadelphia, "The Full Monty" was a paean to an unlovely place that is loved nevertheless, in this case Sheffield, Yorkshire, in all its rusty glory: the sun rising behind the smokestacks, the polluted canals, derelict mills, grimy terraces, grey tower blocks and garden gnomes.

It was also a toe-tapping ode to the dance music of the Seventies and Eighties, from "Hot Stuff" to "You Sexy Thing". ("Look at that," Dave complained of Irene Cara's welding technique in the video for "Flashdance", "her mix is all to cock!") Coming out at a moment when British culture had clout, the film was an international hit. A quarter of a century on, the gang are back in an eight-part series of the same name, out on June 14th on Hulu in America and Disney+ elsewhere.

Seeing them after all these years is like meeting long-lost friends, albeit the kind who make you think: if that's what you look like, how the hell do I look? Life has continued to come at them, in the form of bereavement, adultery and loan sharks. Still skint, Gaz lives in a caravan and has a teenage daughter, Destiny, or Des (Talitha Wing, the best thing here). Like her old man, Des makes mistakes but tries to make up for them, struggles to go straight but has a heart of gold. The story is again anchored in Gaz's friendship with Dave and Dave's marriage to Jean (Lesley Sharp). She is now the head teacher of a school where Dave is the caretaker.

Closeted in the movie, Lomper (Steve Huison) has a husband and runs a café that is the chums' HQ. It is a homely version of the mobsters' meat-shop hangout in "The Sopranos", with less ultraviolence and more cake. The six wrestle with 21st-century mores such as automated supermarket checkouts and political correctness. Once again they get into harmless scrapes; again Gaz's children are father to the man. Along with the children come assorted animals (a stolen celebrity dog, a prize racing pigeon).

This sounds twee, and it is. At the same time the mood is much grimmer than the original's, and not only because everyone keeps their clothes on. The film had decay and despair but also the gentleness of a fable. Here, beneath the antics and confectionary, the wider world is desolate. The school's ceilings leak. Hospitals are creaking. The welfare system is a cruel obstacle course. People go hungry.

As a result, the tone whiplashes between doleful and cute, the comedy veering from whimsical to screwball to macabre. Dramatic tension suffers. For all the post-Thatcher political consciousness, the real battle in 1997 was between the six men and themselves. Several almost pulled out of the striptease because of their neuroses, psychological or anatomical. Baring all became, for them, a sort of gaudy apotheosis.

In the new series, the antagonist is the pitiless, skinflint state, a foe you can dodge and bait but not defeat. The clock the men race is the tick-tock of mortality. "Tomorrow's another day. Might be shit too," Gaz tells Des, expressing the limit of the drama's optimism, "but at least shit in a different way."

As for the thongs and Velcro-seamed trousers: this show knows it can't dance in the same dole queue twice, and doesn't try to. Nods to the gyrations of yore are sparing; only one scene comes close to reprising the old routine, and then in circumstances bleak enough for Beckett. Instead it updates and amplifies the politics and deepens the characters.

Does it work? It grows on you. And there is a brave kind of integrity in this approach to making a sequel. Most sequels run on nostalgia, peddling the dual pleasures of a gauzily revisited past and a sense of progress and resolution. Boldly, "The Full Monty" offers little of either. The past is past and, even with the crutches of friendship and gallows humour, the present is scarcely a remedy.

Tenders

Sale of an exceptional property

CALL FOR BIDS

For the sale by the French Government of the Château de La Garoupe, located in Antibes, France.
All interested parties must submit their application file before July 17, 2023, at 12h00, Paris local time.

Information and conditions for participation:
www.chateaudelagaroupe.com

© Cote Provence Photo

Appointments

Planning a New Career Challenge?

Unique Access to Confidential Opportunities

InterExec is the global leader in assisting Top Executives
to access £200k to £2m+ unadvertised vacancies worldwide.

We act discreetly through our 15,000 strong Headhunter network.

london@interexec.net www.interexec.net +44 (0)20 7256 5085

Inter Exec
UNIQUE NETWORK ◆ OUTSTANDING TALENT

Economic & financial indicators

Economic data

	Gross domestic product				Consumer prices			Unemployment rate		Current-account balance	Budget balance	Interest rates		Currency units	
	% change on year ago latest		quarter*	2023†	% change on year ago latest		2023†	%		% of GDP, 2023†	% of GDP, 2023†	10-yr gov't bonds latest,%	change on year ago, bp	per $ Jun 14th	% change on year ago
United States	1.6	Q1	1.3	1.0	4.0	May	3.8	3.7	May	-3.0	-5.4	3.8	34.0	-	
China	4.5	Q1	9.1	6.1	0.2	May	1.2	5.2	May‡§	2.5	-2.9	2.4 §§	-19.0	7.16	-6.0
Japan	1.9	Q1	2.7	1.1	3.5	Apr	2.4	2.6	Apr	3.2	-5.8	0.5	19.0	139	-3.5
Britain	0.2	Q1	0.5	0.4	8.7	Apr	6.2	3.8	Mar††	-3.3	-5.5	4.4	196	0.79	5.1
Canada	2.2	Q1	3.1	0.7	4.4	Apr	3.3	5.2	May	-1.0	-1.5	3.4	-22.0	1.33	-3.0
Euro area	1.0	Q1	-0.4	0.9	6.1	May	5.8	6.5	Apr	1.6	-3.5	2.5	70.0	0.92	4.3
Austria	1.9	Q1	0.4‡	1.0	8.9	May	7.6	5.1	Apr	1.1	-2.7	3.1	68.0	0.92	4.3
Belgium	1.4	Q1	1.9	0.7	5.2	May	4.8	5.6	Apr	-2.1	-4.9	3.1	73.0	0.92	4.3
France	0.9	Q1	0.7	0.7	5.1	May	5.6	7.0	Apr	-1.7	-5.0	2.9	82.0	0.92	4.3
Germany	-0.5	Q1	-1.3	-0.2	6.1	May	6.0	2.9	Apr	4.4	-2.5	2.5	70.0	0.92	4.3
Greece	2.3	Q1	-0.3	2.0	2.8	May	3.9	11.2	Apr	-8.0	-2.3	3.7	-99.0	0.92	4.3
Italy	1.9	Q1	2.2	1.2	7.6	May	6.4	7.8	Apr	0.1	-5.0	4.1	-21.0	0.92	4.3
Netherlands	1.9	Q1	-2.6	0.8	6.1	May	5.8	3.4	Apr	6.2	-2.4	2.8	66.0	0.92	4.3
Spain	3.8	Q1	1.9	1.8	3.2	May	3.6	12.7	Apr	1.4	-4.2	3.4	72.0	0.92	4.3
Czech Republic	-0.1	Q1	-0.2	0.2	11.1	May	11.4	2.8	Apr‡	-2.1	-4.6	4.3	-121	21.9	8.3
Denmark	2.8	Q1	1.0	0.5	2.9	May	5.0	2.8	Apr	9.8	0.7	2.8	62.0	6.87	4.1
Norway	3.0	Q1	1.0	1.6	6.7	May	4.8	3.7	Mar‡‡	17.6	12.5	1.4	76.0	10.5	-5.1
Poland	-0.1	Q1	16.1	0.9	13.0	May	13.1	5.1	May§	-1.3	-4.0	6.0	-177	4.10	9.3
Russia	-1.9	Q1	na	-1.6	2.5	May	6.0	3.3	Apr§	5.0	-4.3	11.0	189	84.2	-30.8
Sweden	0.8	Q1	2.4	1.0	9.7	May	6.5	7.5	Apr§	3.8	-0.3	2.4	48.0	10.7	-4.3
Switzerland	0.6	Q1	1.1	1.1	2.2	May	2.6	2.0	May	7.5	-0.7	1.0	-28.0	0.90	11.1
Turkey	4.0	Q1	1.3	2.6	39.6	May	43.9	10.0	Apr§	-4.8	-4.4	17.0	-170	23.6	-26.7
Australia	2.3	Q1	0.9	1.6	7.0	Q1	5.5	3.6	May	0.8	-0.5	4.0	1.0	1.46	-0.7
Hong Kong	2.7	Q1	23.0	3.5	2.0	Apr	2.3	3.0	Apr‡‡	6.4	-1.5	3.6	34.0	7.83	0.3
India	6.1	Q1	5.3	6.1	4.3	May	5.6	7.7	May	-1.4	-5.7	7.0	-57.0	82.1	-5.0
Indonesia	5.0	Q1	na	4.7	4.0	May	4.0	5.5	Q1§	0.7	-2.7	6.2	-116	14,898	-1.3
Malaysia	5.6	Q1	na	3.9	3.3	Apr	2.7	3.5	Apr§	3.2	-5.0	3.8	-43.0	4.62	-4.3
Pakistan	1.7	2023**	na	1.5	38.0	May	30.3	6.3	2021	-2.9	-5.8	15.1 †††	219	287	-28.7
Philippines	6.4	Q1	4.5	5.3	6.1	May	5.7	4.5	Q2§	-5.3	-6.5	6.0	-58.0	55.9	-4.8
Singapore	0.4	Q1	-1.6	1.0	5.7	Apr	5.1	1.8	Q1	16.2	-0.1	3.0	-14.0	1.34	3.7
South Korea	1.0	Q1	1.3	1.5	3.3	May	3.0	2.7	May§	2.5	-2.1	3.6	-6.0	1,278	0.6
Taiwan	-2.9	Q1	-2.4	0.6	2.0	May	2.0	3.6	Apr	11.3	-2.2	1.2	-19.0	30.7	-3.4
Thailand	2.7	Q1	7.8	3.8	0.5	May	2.2	1.0	Apr§	2.1	-2.7	2.7	-32.0	34.7	0.9
Argentina	1.9	Q4	-6.0	-3.6	114	May	116.1	6.3	Q4§	-2.6	-4.5	na	na	248	-50.6
Brazil	4.0	Q1	8.0	1.7	3.9	May	5.2	8.5	Apr§‡‡	-2.6	-7.6	11.4	-189	4.84	5.8
Chile	-0.6	Q1	3.4	0.3	8.7	May	7.9	8.7	Apr§‡‡	-4.3	-1.9	5.3	-130	798	8.9
Colombia	3.0	Q1	5.9	1.6	12.4	May	11.7	10.7	Apr§	-4.2	-3.8	10.5	-122	4,199	-4.9
Mexico	3.7	Q1	4.1	2.1	5.8	May	5.5	2.8	Apr	-1.8	-3.7	8.9	-40.0	17.1	20.4
Peru	-0.4	Q1	-2.2	1.7	7.9	May	6.8	7.5	Apr§	-2.0	-1.6	7.1	-79.0	3.65	2.7
Egypt	3.9	Q4	na	2.9	32.7	May	31.8	7.1	Q1§	-1.6	-6.2	na	na	30.9	-39.4
Israel	3.5	Q1	2.5	2.8	5.0	Apr	4.1	3.6	Apr	4.3	-2.3	3.8	53.0	3.59	-3.3
Saudi Arabia	8.7	2022	na	2.0	2.7	Apr	2.2	4.8	Q4	3.7	-1.0	na	na	3.75	nil
South Africa	0.2	Q1	1.4	0.5	7.1	Apr	5.7	32.9	Q1§	-1.7	-5.6	10.7	32.0	18.3	-12.0

Source: Haver Analytics. *% change on previous quarter, annual rate. †The Economist Intelligence Unit estimate/forecast. §Not seasonally adjusted. ‡New series. **Year ending June. ††Latest 3 months. ‡‡3-month moving average. §§5-year yield. †††Dollar-denominated bonds.

Markets

In local currency	Index Jun 14th	% change on: one week	Dec 30th 2022
United States S&P 500	4,372.6	2.5	13.9
United States NAScomp	13,626.5	4.0	30.2
China Shanghai Comp	3,229.0	1.0	4.5
China Shenzhen Comp	2,038.8	2.2	3.2
Japan Nikkei 225	33,502.4	5.0	28.4
Japan Topix	2,294.5	4.0	21.3
Britain FTSE 100	7,602.7	-0.3	2.0
Canada S&P TSX	20,015.1	0.2	3.3
Euro area EURO STOXX 50	4,376.0	2.0	15.4
France CAC 40	7,328.5	1.7	13.2
Germany DAX*	16,310.8	2.2	17.1
Italy FTSE/MIB	27,809.1	2.8	17.3
Netherlands AEX	771.4	1.3	12.0
Spain IBEX 35	9,432.8	0.8	14.6
Poland WIG	67,005.6	1.4	16.6
Russia RTS, $ terms	1,035.8	nil	6.7
Switzerland SMI	11,278.3	-0.6	5.1
Turkey BIST	5,360.8	-3.6	-2.7
Australia All Ord.	7,354.2	0.6	1.8
Hong Kong Hang Seng	19,408.4	0.8	-1.9
India BSE	63,228.5	0.1	3.9
Indonesia IDX	6,699.7	1.2	-2.2
Malaysia KLSE	1,385.4	0.5	-7.4

	index Jun 14th	% change on: one week	Dec 30th 2022
Pakistan KSE	41,536.9	-1.4	2.8
Singapore STI	3,218.1	1.2	-1.0
South Korea KOSPI	2,619.1	0.1	17.1
Taiwan TWI	17,238.1	1.9	21.9
Thailand SET	1,561.2	1.8	-6.4
Argentina MERV	378,695.4	-0.5	87.4
Brazil BVSP*	119,068.8	3.1	8.5
Mexico IPC	55,145.4	1.6	13.8
Egypt EGX 30	17,873.3	3.0	22.4
Israel TA-125	1,825.1	1.9	1.3
Saudi Arabia Tadawul	11,533.0	1.4	9.4
South Africa JSE AS	78,060.3	1.2	6.9
World, dev'd MSCI	2,939.6	2.5	12.9
Emerging markets MSCI	1,014.9	2.0	6.1

US corporate bonds, spread over Treasuries

Basis points	latest	Dec 30th 2022
Investment grade	153	154
High-yield	459	502

Sources: Refinitiv Datastream; Standard & Poor's Global Fixed Income Research. *Total return index.

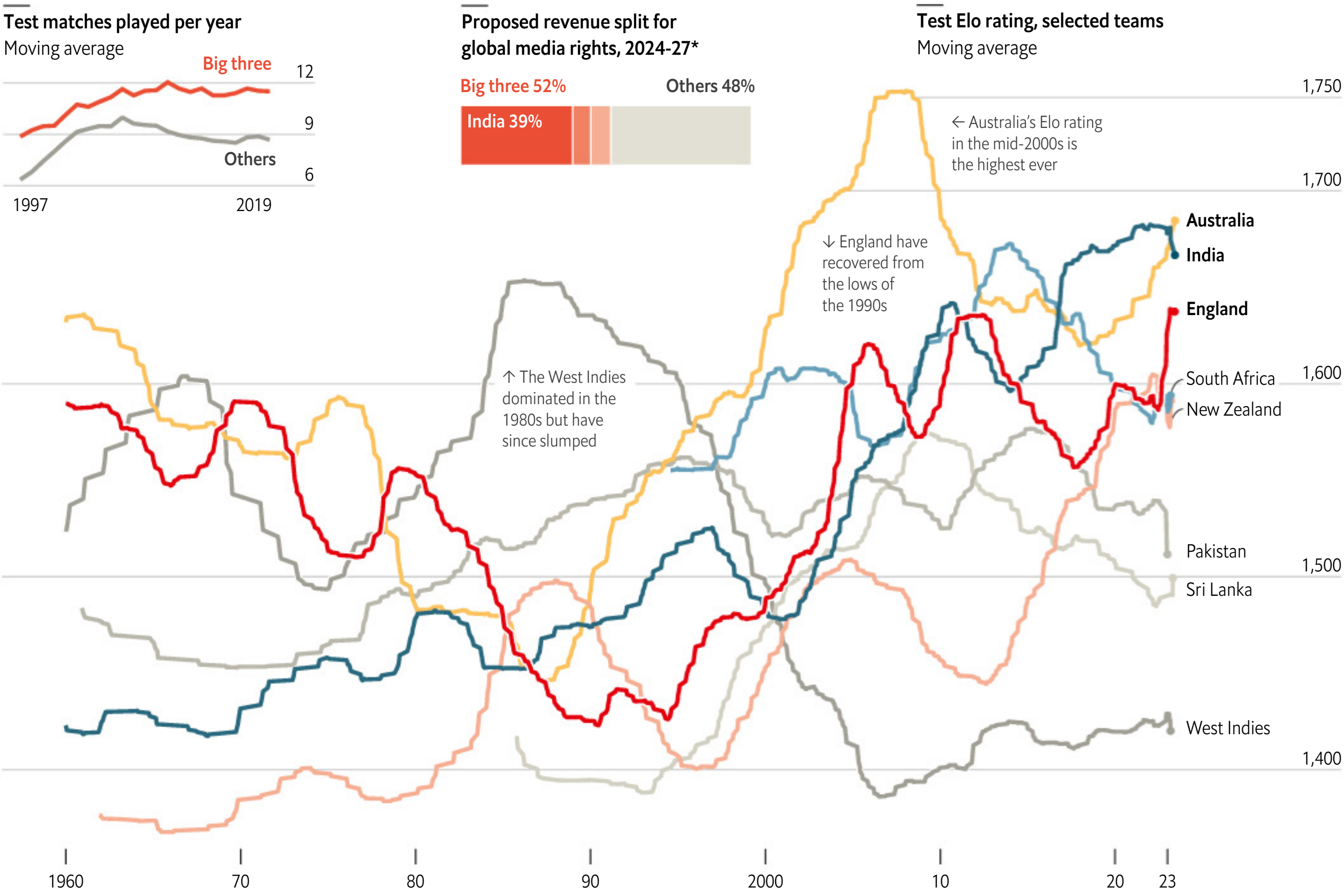
Commodities

The Economist commodity-price index 2015=100	Jun 6th	Jun 13th*	% change on month	year
Dollar Index				
All Items	140.9	145.5	0.1	-17.3
Food	132.7	134.6	-1.9	-16.3
Industrials				
All	148.5	155.7	1.9	-18.1
Non-food agriculturals	106.5	107.4	nil	-37.6
Metals	160.9	170.0	2.2	-12.9
Sterling Index				
All items	173.3	176.1	-0.7	-21.2
Euro Index				
All items	146.1	149.3	0.7	-20.3
Gold				
$ per oz	1,959.4	1,950.9	-2.4	7.6
Brent				
$ per barrel	76.3	74.3	-0.9	-38.6

Sources: Bloomberg; CME Group; Cotlook; Refinitiv Datastream; Fastmarkets; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Urner Barry; WSJ. *Provisional.

For more countries and additional data, visit
economist.com/economic-and-financial-indicators

→ **The "big three" of Australia, India and England are separating themselves from the pack**



*Revenues for all cricket formats Sources: Cricinfo.com; Devashish Fuloria; ICC; *The Economist*

And then there were three

Winning the Ashes would make England the world's best Test team

On June 11th Australia prevailed over India to win cricket's World Test Championship. Although national teams have played each other in the Test format since 1877, this event is new. Australia are only its second victors, after New Zealand in 2021.

The International Cricket Council (ICC) has held world championships for one-day cricket since 1975, and for T20 matches, which last just a few hours, since 2007. As these short formats have gained popularity, purists have fretted that Test cricket's stature was at risk. In response, the ICC launched the World Test Championship.

Because Test matches can last up to five days, too long for prolonged tournaments to be practical, the ICC devised an awkward system. Over two years of games, teams earn points to qualify for a final. However, they play varying numbers of matches, and face different levels of opposition. For example, Bangladesh played 12 games, and none versus Australia and England, two of cricket's giants. In contrast, half of India's 18 matches were against those teams.

So were Australia deserving winners? One tool to assess their strength is Elo, a rating system built for chess that has been used for various sports, but rarely for cricket. All teams start with a score of 1,500 and then swap points after each match, with the winner's rating rising and the loser's falling. The more surprising the result, the more points get traded. Elo also accounts for home advantage, a big edge for teams that modify pitches to suit their styles.

Calculating Elo scores back to 1947, we find that the World Test Championship got this one right: the world's best team is indeed Australia. By historical standards, its rating of 1,685 is similar to South Africa's peak in 2013. However, the team pales in comparison with Australia's own past. In January 2008 an Australian team packed with stars achieved a record Elo score of 1,797. If that team were to time-travel to the present, Elo suggests it would beat today's Australians 66% of the time.

The most striking recent trend in the data is the sharp rise in England's rating since the team made Brendon McCullum its coach in May 2022. Under his stewardship, England have taken a Test-wide trend of trying to score faster and put it into overdrive. This hyper-aggressive style, nicknamed "Bazball", has borne fruit: England have won 11 of their past 13 Tests, while scoring an unprecedented five runs per over. During that period, their Elo score has risen by nearly 100 points, to 1,637. This week, England begin the Ashes, their biennial five-match series against Australia. If they win at least three Tests, they will become Elo's top-rated team.

England's surge has aligned performance on the pitch with cricket's finances. The sport's economic titan is India, expected to account for 39% of international media revenue across all formats in 2024-27. England and Australia jointly make up a further 13%. Because broadcasters pay only paltry amounts for Test matches lacking a "big-three" team, other countries have little economic incentive to play them. This leads weaker teams to participate in fewer Test matches, and has left the once-mighty West Indies struggling to pay their players. On current trends, New Zealand, the world's first official Test champions, will probably be the last winners outside the big three for years to come. ■

The great seducer

Silvio Berlusconi, Italy's longest-serving prime minister, died on June 12th, aged 86

But for the genitalia of the women of the Caucasus, the whole improbable adventure might never have happened. Becoming one of the world's richest men; creating a political party from nothing in less than a year; and going on to become the Italian Republic's longest-serving prime minister.

It all went back to his conversation on the train with the hostile vice-president of a pension fund. He desperately needed this man to invest in his first big construction project. His original ploy—getting relatives to pretend they were clamouring for the apartments he had built near an industrial complex outside Milan—had gone embarrassingly wrong. The pension-fund boss had realised he was being duped. But then the 27-year-old Silvio Berlusconi deployed his irresistible charm, seduced the vice-president's secretary, persuaded her to tell him when her boss was next travelling to Milan and booked the seat opposite.

By the time they reached Milan they were both at the bar, half-drunk, with the pension-fund manager telling him how extraordinary were the private parts of the women of Caucasia. The venture was rescued, enabling the young entrepreneur to embark on an even more grandiose development, Milano Due. The cable-TV station at Milano Due in turn provided the foundations for a vast media group that smoothed his entry into Italian politics and helped sustain him as a force in parliament for nearly 30 years.

But all that, he assumed, was more or less bound to happen. He was not only a self-made man but also a man of destiny; even if his first enterprise had bombed, he would eventually have earned the success that was his due. He had enormous energy, a master salesman's talent for persuasion, a wave of the hand for laws that stood in his way and limitless self-belief. As he told his American biographer, he knew how to create and how to lead. And, he added, "I know how to make people love me."

So he did. A poll of young Italians conducted in 1993, the year before he first became prime minister, found they loved him more than Jesus. Though he never succeeded in getting a majority of the electorate to vote for him, those who backed him did so with a fervour rare in democratic societies. At the height of his personality cult, before the general election of 2008, his campaign song was entitled "Thank goodness for Silvio":

> Say it like this,
> with a strength that belongs only
> to those who are pure of mind:
> "Prime minister, we are with you. Thank goodness for Silvio."

He took care to ensure the devotion of his collaborators, remembering birthdays and buying flowers for female assistants. As one (straight) male deputy from his Forza Italia party put it, they didn't just come to like Silvio. They came to love him.

All this seemed perfectly understandable to the object of their adulation. It was incomprehensible, therefore, that so many others failed to see things the same way. There were the journalists (though fewer perhaps than might be expected) who asked how the son of a Milanese bank manager could become so fabulously wealthy in just a few years. Some even hinted, insultingly, that he might have received his seed capital from organised crime. They noted that his father's bank was said to be a laundry for Cosa Nostra money; that he hired a Mafia boss to work in his home, and that the man who set up Forza Italia for him, Marcello Dell'Utri, was convicted of aiding and abetting Cosa Nostra and given a seven-year prison sentence.

Then there were the prosecutors who wanted to know, among many other impertinent things, whether his success as a media tycoon was entirely due to his business acumen, or whether it had more to do with the bribing of judges and the illegal funding of the party that let him own a three-channel national TV network. Case after case was brought against him. Yet he always managed to wriggle free, often thanks to laws that guillotined Italy's lengthy judicial processes. During his longest spell in office, from 2001 to 2006, he changed the law to ensure the blade fell earlier on the kind of trials he was most likely to face. It was among nearly 20 measures he introduced that favoured either him or his businesses, which grew like topsy while he was in power.

None of this, however, shook his belief in his own altruism. On the stump he would reproach voters for their lack of appreciation of his selflessness, reminding them that he owned more than 20 houses around the world but, instead of enjoying them, slaved night and day for the good of his ungrateful compatriots.

Perhaps most hurtful of all, some people insinuated that he was a misogynist. But he loved women. At least, those who were young and beautiful. Not like Angela Merkel, whom he allegedly described as an unbeddable lard-arse and publicly humiliated at a NATO summit. He nevertheless adored his mother, Rosa, and, whether coincidentally or not, it was after she died in 2008, just before his third spell as prime minister, that he became involved in the first of many scandals involving young—sometimes very young—women. His second wife, Veronica Lario, a former actress, separated from him, after declaring she could not share her life with a man who consorted with under-age girls.

His supporters, or at least the men, might have overlooked the scandals, had it not been for the financial crisis that erupted at the same time. The resulting emergency was particularly unsuited to his personality. He had always taught his salespeople that they should "carry the sun in their pocket", and he himself always radiated positivity and optimism. But what the Great Recession revealed was that he was almost physically incapable of communicating bad news. On the contrary, he told Italians the crisis would not affect them. And as their economy crumbled the next year, even many of his most devoted followers realised—like that pension-fund chief at the start of it all—that they too had been duped by the great seducer. ■

ECONOMIST
IMPACT

The 32nd annual

EuroFinance International Treasury Management

September 27th-29th 2023 | Barcelona

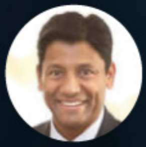
Optimise your treasury for the new economic cycle

Join more than 2,000 senior-level treasury professionals to exchange experiences and hear best practices. Meet top financial and technology partners.

Learn how the world's leading treasurers have built resilience and added value to their organisations with new solutions to today's complex challenges.

Speakers include:

Mandana Sadigh
Senior vice-president
and treasurer
Mattel



Mack Makode
Vice-president
and treasurer
Under Armour

Susana Aristizabal
EMEA treasurer
eBay

Doug Tropp
Senior vice-president
and treasurer
Booking Holdings

Register today:

www.eurofinance.com/international

Official lead sponsors

BNP PARIBAS
J.P.Morgan
standard chartered
BANK OF AMERICA
citi
Santander Corporate & Investment Banking
HSBC

LOUIS VUITTON
0 10 20 30 40 50 60
U I T T O

LOUIS VUITTON
HAUTE HORLOGERIE